JUL 8 1920

Registered at the G.P.O., Sydney, for Transmission by Post as a Newspaper. Published Weekly.

THE

MEDICAL JOURNAL OF AUSTRALIA

(With which "The Australasian Medical Gazette," and "The Australian Medical Journal" are incorporated.)

The Journal of the Australian Branches of the British Medical Association.

VOL. I.—7TH YEAR—No. 21. SYDNEY: SATURDAY, MAY 22, 1920. PRICE 6D.

RAW CATGUT

DE-FATTED

We have just landed good supplies of the best quality Catgut of **English** manufacture in the following sizes:

Nos. 000, 00, 0, 1, 2, 3, 4, 5, 6

In Packets containing 12 strands each 10ft. long.

ALLEN & HANBURYS Ltd.

SURGICAL INSTRUMENT DEPARTMENT

B.M.A. BUILDING : ELIZABETH STREET, SYDNEY

BEARD WATSON'S PAGE

Our Standard of Quality is Maintained in All we make.

The "BOSTON" Bedroom Suite

In Picked Maple—Fumed and Waxed Finish

COMPRISES

5ft. 6in. Wardrobe (2-thirds Hanging) -
3ft. 6in. Dressing Table - -
3ft. Washstand - - - -

£42 0 0

A 4ft. 6in. Bedstead to Correspond, £5.— —Bedding Extra.

Note.—The above illustration shows one of our many fitted show rooms, where the effect of furniture properly placed and with appropriate adjuncts of decorations, etc., may be studied at leisure.

BEARD WATSON LTD

361-363 GEORGE STREET SYDNEY

THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. I.—7TH YEAR. SYDNEY: SATURDAY, MAY 22, 1920. No. 21.

A REVIEW OF FOUR CASES OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.[1]

By **Idris Morgan, M.B., Ch.M. (Syd.),**
Assistant Honorary Physician, Newcastle Hospital, New South Wales.

The cases which I propose to relate and comment upon were admitted to the wards of this hospital during the last nine months. Before giving the details of the case histories, I would like to emphasize a few points relating to this type of case.

Harrison's Classification.

Harrison divides these cases into two groups, one in which the supporting and nutritional structures, *viz.*, the arteries and meninges, are affected and the other in which the parenchyma is affected. This classification is purely arbitrary. Cases occur in which the arteries alone may show evidence of luetic infection, but usually the meninges, parenchyma and arteries suffer together, although clinical evidence may point to one of these structures as the seat of pathological change.

Pathological Lesions.

The pathological lesions may be briefly summarized as follows: Gummata and gummatous infiltration of the meninges or parenchyma, syphilitic arteritis in its various forms, lesions secondary to syphilitic arteritis, degenerative fibroid changes and meningo-encephalitis.

Osler regards the occurrence of a patch of encephalitis or meningo-encephalitis around a degeneration due to syphilitic arteritis as the possible cause of the rapid onset of acute and alarming symptoms, which frequently appear in patients suffering from syphilis of the central nervous system.

Transient Warning Symptoms.

It is a well known fact that syphilitic arteritis and consequent secondary changes of a minor degree may be present and progressive in the central nervous system for comparatively long periods of time without any gross clinical manifestation of their presence. On the other hand, transient symptoms, which vary considerably in their character and severity, are often manifested early, sometimes even before the primary lesion is healed (Osler) and constitute a warning, which, if heeded, may enable the physician to save his patient much suffering and to prevent him from ultimately becoming a burden to the State.

The nature of these transient warning attacks is extremely varied. Loss of memory, confused ideas, convulsions, dizziness, headache, change in temperament and in severer cases transient monoplegia and hemiplegia have been recorded as being the commoner symptoms observed. Less commonly an exaggerated condition of apathy, torpor or even a condition resembling coma may be present.

Some observers lay great stress on the diagnostic significance of convulsions occurring in patients over 30 years of age.

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on April 30, 1920.

In a minority of cases these symptoms are not transient (Harrison) and in a comparatively short time the localizing symptoms of gross damage to the brain substance make their appearance.

Not only are the symptoms of brain syphilis themselves extremely varied, but also their sequence and intensity. There are several factors on which this variability depends:

(1) The complicated mechanism of the brain structure and the numerous axone paths by which many of the comparatively widely separated higher centres are linked.

(2) The manner in which the brain is richly supplied with blood by vessels, of which the majority are end arteries.

(3) The fact, revealed by *post mortem* study, that a few, or many, or any of these arteries may be attacked by the disease.

When these conditions are correlated it will be realized how variable the clinical manifestations may be.

Norman Walker states that syphilis can and may imitate most diseases of the skin. He advised his students to keep the possibility of a syphilitic infection constantly in mind, but not to get this idea on the brain. I think this advice applies equally well to the diagnosis of symptoms pointing to a cerebral lesion or lesions.

Epilepsy in Cerebral Syphilis.

Embolism, thrombosis and cerebral hæmorrhage due to luetic arteritis usually produce definite symptoms which are not likely to be confused with other conditions. Syphilitic meningitis and malnutrition of the brain substance from narrowing of a cerebral artery affected by lues, however, often produces epileptiform seizures, which recur and increase in intensity. A positive Wassermann reaction of the blood or cerebro-spinal fluid may be the only means of arousing the suspicion that syphilis is the causal agent in these cases.

Psychic Phenomena.

Any psychic phenomenon may be produced by cerebral lues. The symptoms found in neurasthenia, hysteria or any of the neuroses may be simulated by a luetic infection of the brain. There is strong evidence to show that these symptoms occur in the earlier stages of the disease and therefore the results of immediate anti-specific treatment are likely to be more favourable.

Harrison maintains that the first group of his classification, *i.e.*, that in which the nutrient and supporting structures are affected, are very amenable to treatment and, if treated in the early stage, as manifested by transient cerebral symptoms, there is every hope of not only preventing the later intractable phase of the disease, but of entirely ridding the system of the infection. This being the case, it is of paramount importance to have a Wassermann test performed, as a routine, in all cases of neurosis of obscure origin.

Complement Fixation Test.

A short digression on the reactions in use for the diagnosis of syphilis and the degree of reliability claimed for them may not be out of place here. It is now a recognized fact that the Wassermann reaction is only present in 85% of cases of undoubted syphilis (Walker and Osler).

The Wassermann test applied to the cerebro-spinal fluid has a much higher reliability in syphilis of the central nervous system. The American reports claim a reliability of 95% with the colloidal gold and globulin tests.

The cutaneous reaction with luetin, which has the advantage of causing no reactionary inconvenience, is alleged to be reliable in 90% of cases of tertiary and congenital syphilis.

Cytological Findings in Syphilis Presenting No Cerebral Symptoms.

Examination of the cerebro-spinal fluid in a series of cases of syphilis without cerebral symptoms showed that meningitis is present in 16½% of primary cases, 50% of secondary cases, 34% of tertiary cases and 48% of congenital cases (Harrison).

Three hundred patients were examined. The highest percentage of cases presenting cytological evidence of specific meningitis was in the secondary stage. This confirms the previous recorded observation that syphilitic meningitis makes its presence known clinically from six months to four years after the primary lesion. Parenchymatous lesions (general paralysis of the insane, *tabes dorsalis*, etc.) usually become manifest at a much later period. Syphilitic meningitis is frequently found at the base of the brain. The meninges covering the interpeduncular space and the surface of the *pons varolii* are found to be thickened and infiltrated with fibrous tissue. The nerves which emerge from the brain in this region thus become impaired in their function. This impairment of function, notably in the nerves supplying the muscles of the eye, may be and often is the earliest manifestation of the pathological process going on within the cranium. I will not dilate upon the frequency and significance of impairment of function of the ocular muscles in this connexion, as it will be illustrated in the fourth of this series of cases and, further, because Dr. Allen will treat this aspect of the subject in more detail.

Persistent headache—frontal, parietal or occipital—is caused by syphilitic meningitis.

A syndrome, due to cerebral anæmia from the narrowing cerebral arteries and consisting of lassitude, dizziness, anorexia, etc., sometimes ascribed to hypertension, overwork, etc., is considerably improved by anti-specific treatment, provided the possibility of syphilis as a cause is kept in mind and the Wassermann test is performed.

Case Records.

Case I.—Mrs. R.P., admitted on October 13, 1919, complained of headaches and "fits" since October 2, 1919, eleven days before admission.

Family History.—The family history revealed nothing bearing on the case. The patient had been married six months previously. She became pregnant and miscarried (a three months' fœtus) eight weeks before admission. She had been ill with influenza three months before admission, but there were no pneumonic symptoms. Eleven days before admission she awakened with a slight headache and felt "out of sorts." She was menstruating and attributed her symptoms to that condition. The next day she vomited after her mid-day meal. The same evening she fainted. Since then till admission she had four or five fainting attacks daily, following by what she called "fits." She stated that on an average the fits lasted five minutes and that one lasted 45 minutes. She had only once bitten her tongue; she had never lost control of her sphincters. The patient thought that she had lost weight.

Alimentary System.—Anorexia and constipation were present. There was no other abnormality.

Central Nervous System.—The knee jerks were present and slightly exaggerated. Babinski's reflex was flexor. There was neither ankle nor patellar clonus. The ankle jerk was present, but not exaggerated. The pupils reacted actively to light and accommodation. They were moderately dilated. Diplopia was present. This diplopia was transient and disappeared in about 36 hours. Dr. Allen reported no abnormality in the fundi. Other cranial nerves were normal. The temperature and pulse remained normal throughout and the other systems were normal.

The diagnosis in this case was certainly not obvious. A convulsion, which occurred in the ward and which was witnessed by the nurses, and the general demeanour of the patient excluded any functional nervous derangement. The examination of the urine revealed no abnormality. There were no localizing signs in the nervous system. A blood count was carried out; there were five million red cells, 80% hæmoglobin and 12,000 leucocytes in their normal proportions. Unfortunately, a lumbar puncture was omitted. Two days after admission the Wassermann reaction with blood was reported to be positive.

The patient was immediately given anti-specific treatment. She has had six injections of novarsenobillon (0.9 grm.) intravenously and has been under the influence of mercury, with one rest, ever since. When seen last week (April 14, 1920) I found that she had gained 6.3 kilograms (one stone) in weight. The headache and fits disappeared immediately after the first injection. It transpired that the patient's husband was syphilitic.

Case II.—H.H.L., age 27 years, a piano tuner, was admitted to the male medical ward on September 10, 1919. He had just recovered from an attack of influenza and had not been allowed to get up when he was admitted.

On admission he was found to be in a state of exaggerated apathy and would not answer questions nor speak at all. He lay quietly in bed and was quite indifferent to anything going on around him. The pulse was normal and the temperature subnormal (37.0° to 37.5° C.).

Clinical examination revealed nothing abnormal except that the knee jerks were slightly exaggerated and the reaction of the pupils to light was sluggish.

He remained in this state for two days. On the third day he became restless and vomited.

On the evening of the fourth day he was found sitting on the mantlepiece of the ward in a squatting attitude. He stated that he was a frog and, but for the timely assistance of a couple of convalescent patients, would have leaped on to the floor on all fours. His condition became worse and a restriction sheet had to be employed. He attempted to jump over the balcony and became violent, throwing the plates on which his food was brought to him, against the wall.

No other clinical signs had appeared and we were at a loss to diagnose the condition. A sample of blood had been taken for the Wassermann test merely as a routine procedure. The pathologist reported a strongly positive reaction.

Immediately after the first injection of salvarsan the mental confusion disappeared. The fits became fewer and had quite disappeared when the first course of injections was completed. Mercury, given by the mouth, was then given for three months. He then had two or three fits and a second course of injections was commenced. This course was completed four weeks ago. There have been no fits for six weeks.

On examination last week (April 24, 1920) this patient showed no abnormality of the nervous system, with the exception of a slight dilatation of the left pupil. He recommenced work when he left the hospital. His employer states that his capacity for work and his standard of work have both seriously depreciated. He has put on weight and his general physical condition has improved.

He admits having contracted a double infection (gonorrhœa and syphilis) at the age of 18 years. He has not been treated previously.

Both of these cases present some very interesting features. The first patient gave a reliable history and stated definitely that she had not had any skin lesions, sore throat or labial sore. The posterior cervical and epitrochlear glands were not enlarged. Pringle regards the enlargement of these glands as one of the most constant signs of the primary stage. Its value as a clinical sign, especially if both epitrochlear and posterior cervical glands are enlarged, is enhanced by the fact that it frequently appears within 21 days, that is, before the blood gives a positive Wassermann reaction. It has long been recognized that numbers of patients with general paralysis or tabes do not manifest the usual signs of the primary and early secondary stages. From this case it would appear that when the meninges and nutrient arteries bear the brunt of the attack, then also these common, early lesions may be absent. This, of course, masks the true nature of the infection and once again emphasizes the urgent necessity of a routine Wassermann test being performed on the blood or cerebrospinal fluid, if necessary.

Although I have been unable to prove it definitely, I am convinced that infection was coincident with marriage in the first patient. Within six months signs of meningitis had occurred. The psychic phenomena which were present, convulsions and dizziness, did not lead us to suspect syphilis. The miscarriage was significant. The diplopia, although transient, was strongly suggestive of inflammation of the meninges covering the interpeduncular space.

Much discussion has taken place as to why the central nervous system is singled out in certain individuals suffering from syphilis and why the primary lesions are absent or so trivial as to pass unnoticed by the sufferer. It has been suggested that a special strain of spirochæte is responsible for this apparent clinical anomaly. The suggestion is supported by the fact that the spirochæte causing yaws is indistinguishable microscopically from the *Treponema pallida*. This theory does not explain why syphilitic meningitis is so amenable to treatment, while general paralysis of the insane and tabes are much more intractable. I have found several conflicting and equally positive opinions on this subject, but it does not seem to have been conclusively settled.

The case illustrates the following points:

(*i.*) The extreme rapidity with which the central nervous system may be attacked.

(*ii.*) The grave responsibility that rests upon the physician to realize the possible significance of such warning signs as transient neurosis, diplopia, etc..

(*iii.*) The importance of a routine Wassermann test in all such cases, however remote the possibility of a syphilitic infection.

(*iv.*) The amenability of some of these cases to early vigorous treatment.

It is somewhat difficult in the second case to decide what the cerebral lesion is. The patient admits a venereal infection nine years ago, which he says was a chancre. If this was the original lesion the lapse of time makes one suspect an advanced pathological condition. At the same time, it must be remembered that, even after long lapses of time, symptoms of a cerebral lesion may become manifest, with the presence of early pathological change in the tissues affected.

Presuming that the infection causing the present symptoms did take place nine years ago, the variability, both of sequence and character of symptoms, is illustrated. In one case, fits, convulsions and dizziness occurred six months after infection and in the other fits, mania and apathy nine years after infection. Why these long latent periods occur before symptoms are manifested in some cases of cerebral syphilis is not clear. The transient attacks and sudden lighting up of symptoms in an amazingly short time (as will be seen in Case IV.) is probably explained by the condition of meningo-encephalitis frequently found *post mortem* in relation to these patches of meningitis and gummatous infiltration.

The second patient received eleven intravenous injections, five of salvarsan and six of novarsenobillon and a three months' course of mercury. His fits gradually became fewer and less intense. He has been free from them for the last six weeks.

At present his knee jerks are much exaggerated and his pupils react sluggishly to light. His general health has improved, but his mental capacity has deteriorated.

It is interesting to note that both of these patients suffered from influenza shortly before the cerebral symptoms appeared. The question arises, in passing: Did this infection play any part in hastening the manifestations of cerebral syphilis?

The theory has been advanced that when specific arteritis occurs, although the narrowing of the calibre of the arteries may be of an advanced degree, the reserve channels of supply can carry on the nutrition till an extra demand is made on the cerebral function and then the breaking-point occurs (Harrison). This is illustrated by the statement frequently made that tabes attacks manual workers and general paralysis of the insane brain workers. Most practitioners have, I think, met many cases which do not conform to this rule. The frequent history of stress and strain, either physical or mental, immediately preceding a transient attack, or the actual symptoms themselves, confirms the explanation that the brain nutrition has exhausted its reserves and can no longer preserve the cerebral mechanism in proper running order.

The next two cases—an accountant with tabes and the driver of a railway locomotive with general paralysis—are an example of this. I simply wish to emphasize one or two points in each case.

Case III.—The patient is 30 years of age and is an accountant. He is married and has three healthy children.

He admits the possibility of having become infected in his younger days, but states definitely that he has never had any sore on the penis, cutaneous rash or sore throat.

He complained of shooting pains in the legs and back, which had been present for two years. His chief trouble was gastric pain, followed by attacks of vomiting. This had been present off and on for fourteen months. He had been in two hospitals in this district. In one he was treated for "gastritis" (this, of course, is his own statement); in the other for "cirrhosis of the liver," because the vomiting had occurred in the morning. There were no other symptoms.

Examination revealed Argyll-Robertson pupils, absence of the knee jerks and impaired sensation in both legs. The Wassermann test carried out with his blood was positive.

The Argyll-Robertson pupils were not definite. What I mean is that the pupil responded very sluggishly to light and actively to accommodation. In the earlier stages the lightning pains were not severe and the gastric attacks directed attention to the stomach; consequently, the correct diagnosis was not made.

Lightning pains are classed as one of the early symptoms of tabes. Gastric crises may occur at any stage of the disease, but usually appear in the second stage. The early appearance of the gastric crisis in this case illustrates that what is true of the brain is also true of the spinal cord; the symptoms show an extreme variability in their intensity and sequence of appearance.

This patient was treated by the Swift-Ellis method. Some cases of tabes and general paralysis are alleged to have been arrested and ameliorated by this treatment. There is unassailable evidence to prove that arrest and amelioration, even for several years, takes place spontaneously in some of these patients, who have never been treated at all. Generally tabes and general paralysis of the insane are extremely intractable to treatment. No tenable explanation is forthcoming to show why arsenical compounds, given intravenously, do not give the same excellent results as when used for the treatment of visceral lesions.

Swift and Ellis treated the cells of the central nervous system by intrathecal injections of the patient's own sensitized serum, taken from a vein within an hour after an injection of salvarsan. Several series of cases have been reported by other workers with decidedly hopeful results.

The treatment of this case by intravenous injections of arsenic, followed by intrathecal injections of his own sensitized serum has been commenced. He has been given three combined injections at weekly intervals. The patient himself reports that he has had no further attacks of vomiting and diarrhœa and that his lightning pains have "almost disappeared." Such a rapidly favourable result is not the usual experience in these cases, although some have been reported.

In this case, although the organic lesion is undoubted, the treatment has been aided in no small measure by suggestion. The patient has been brooding over his illness and the severity of his symptoms for some months. He was more or less convinced that nothing could be done for him. We deliberately imbued him with the hope of recovery and the disappearance of his symptoms. The commencement of his treatment was unavoidably delayed for several weeks. During the whole of that time, this confident, hopeful attitude was constantly presented to him and acted, as suggestion always will act in varying degree on any patient, by aiding the successful result of the therapeutic treatment.

I do not wish to depreciate the value of the treatment, but at the same time hesitate to over-rate it.

All patients, whether the victims of gross organic diseases or milder complaints, which produce conscious symptoms, are liable to exaggerate the symptoms produced and even to manifest others, not usually produced by the specific disease from which they suffer. This is the result of auto-suggestion and even in a disease like tabes, where the symptoms are based on definite, well-established pathological changes, a remarkable amelioration can be produced by suggestion alone, without re-education. This is an important point to be taken into consideration in the evaluation of any system of treatment.

Moloney, in his work on "Locomotor Ataxia," believes that there is no therapeutic treatment, the Swift-Ellis treatment included, which can claim either to have cured or to have arrested the progress of syphilis of the central nervous system.

He elaborated a system of treatment, somewhat similar to that of Fränkel, which, according to statistics, has had more constantly favourable results than any other. At the same time so many more beneficial results of the Swift-Ellis treatment are being reported that it seems worthy of a more prolonged trial before being classed as of no value.

Moloney's system of treatment attempts chiefly to cure the ataxia, which is the most constant incapacitating symptom of tabes. He says that most atactics are more ataxic than their anatomical lesions warrant. Their muscles became rigid because of their fear of falling. He teaches them first, by hours of patient education, to relax all their muscles, claiming that only by learning how to relax muscles completely and voluntarily can a patient be taught to contract groups of muscles in co-ordinated movements.

He then, by repeated passive movements of joints, with the patient blindfolded, reteaches the sensations experienced in the brain by the movement of each separate joint in any given direction. The teaching is done by trained attendants and requires time and patience. After the patient has learnt to recognize the different movements at the different joints, he is then trained to perform them himself and so gradually learns to perform co-ordinated movements, such as walking, without the aid of vision. This treatment has been used for several years now and the results have been excellent and fairly constant. It is widely used in American hospitals. Careful records have proved its value beyond question.

I should record the fact that this patient felt so well that he went back to work with disastrous results. He is now worse than ever.

Case IV.—J.G., 51 years of age, a locomotive engine-driver, was admitted from the Ophthalmic Out-Patients' Department at Dr. Allen's request on February 2, 1920. He complained of double vision. He had enjoyed a healthy life. He denied a venereal infection.

The patient was dull and heavy in appearance and manner. He answered questions slowly, but correctly. There was a considerable pause between the questions and the replies, even of the simplest nature. He was distinctly apathetic. His memory was confused and uncertain, especially for recent events.

Dr. Allen reported diplopia due to paresis of the right external rectus. The patient complained of double vision having been present, but stated that it was better.

All the other cranial nerves were normal. There was the typical slurring, blurred speech of general paralysis of the insane. His muscular strength and sensations were normal. The knee jerks were greatly exaggerated. No epigastric or cremasteric reflexes were present. The other reflexes were normal. All other systems were normal.

Fine tremor of the fingers was noted. This was not present in the lips or tongue. The temperature and pulse were normal. The Wassermann test with blood was positive.

Here was a case presenting very few symptoms:

(*i.*) Diplopia, which had been present for four months.

(*ii.*) Exaggerated knee jerks.

(*iii.*) Slowness in answering questions.

(*iv.*) Blurred speech, present for two days.

The blurred speech was almost pathognomonic, but had only been present for two days. Before that time the diplopia and the exaggerated knee jerks were the only symptoms on which a diagnosis could be based. If it be kept in mind that diplopia or paresis of ocular muscles should always suggest the possibility of syphilis and a Wassermann test be carried out, I am convinced that many of these cases would be diagnosed at a much earlier stage of the disease.

Six days later the patient became violently maniacal and had to be removed to the asylum.

In conclusion, gentlemen, I would like to point out that these cases are by no means as rare as one would expect. These four were chosen from a series of seven similar patients, admitted during a period of nine months. I justify myself for reviewing them because, as I think I have shown, they demonstrate the way in which cerebral syphilis masks itself and mimics other conditions, making diagnosis difficult in the early stages. Further, they show the importance of early treatment in preventing the more serious lesions and the value of carrying out a Wassermann test as a routine procedure.

NOTES ON CEREBRAL SYPHILIS.[1]

By **Hugh G. Allen, M.B., Ch.M. (Syd.),**

Honorary Ophthalmic Surgeon, Newcastle Hospital, New South Wales.

The frequency with which ocular paresis occurs in cases of *tabes dorsalis*, general paralysis of the insane and cerebral syphilis has been remarked upon by many medical practitioners, so much so that, whenever a case of diplopia comes under observation, it is necessary to remember the possibility of *tabes*, general paralysis of the insane or disseminated sclerosis developing later on in life. I can well remember, when a student, being taught gynæcology by our worthy teacher, Dr. Foreman, that his old axiom was that when a patient presented herself for examination, she should be considered pregnant until proved otherwise. So, in ophthalmology, the axiom: Whenever a case of diplopia occurs, it should be regarded as syphilitic until proved otherwise, is a safe line to follow. I have been much impressed by the number of patients I have seen presenting well marked signs and symptoms of *tabes* and general paralysis who give a history of diplopia at some earlier stage of their career. This evening I propose to give the notes of a few cases of diplopia occurring in patients who subsequently manifested undoubted signs of *tabes* and general paralysis of the insane.

The diplopia complained of arises from paralysis of some ocular muscle or muscles. The lesion causing the paralysis is either intracranial or orbital. Among the commonest conditions in the orbit that give rise to ocular paresis are the following: periostitis, tumours, hæmorrhage, fractures and affection of the sinuses. Syphilis causes about 60% of ocular paresis (De Schweinitz), the condition being due to an inflammation or gummatous change affecting the nerves at the base of the brain or in the orbit, or it may be central in origin from disease of the nerve nuclei, or from lesions in the third ventricle, aqueduct of Sylvius or the fourth ventricle.

As a rule, syphilitic paralysis is one of the later manifestations, but it has been noted early. Syphilitic paresis is rare in congenital syphilis. Tabetic paresis is often transitory in nature and relapses are not uncommon. The cases which Dr. Morgan has quoted, show especially well the importance which should be placed upon the diplopia complained of in an early stage of the disease.

CASE I.—Miss S.F., 26 years, consulted me in October, 1916, complaining of a squint in the right eye and diplopia of some three months' standing. No history of syphilis was obtainable. The patient had a paresis of the right external rectus. The pupillary reactions were normal. The visual acuity was $^6/_6$ in each eye. The fundus was clear. A Wassermann test was carried out and yielded a positive reaction.

This patient afterwards admitted having had a miscarriage twelve months previously, followed by some falling out of her hair. No definite evidence of a labial sore or rash could be obtained. The paresis cleared up under iodide of potash and mercury, but I have been unable to follow up her case further.

CASE II.—Mr. H.T., aged 56 years, consulted me in November, 1917, complaining of "double vision" for seven weeks. He had just recovered from an illness of several weeks' duration, the chief symptoms of which were headache and vomiting and which had been put down to "liver trouble." The patient gave a history of syphilis acquired 29 years previously; it was treated for one month only. The pupils reacted to light and accommodation. The tension was normal. Paresis of the left external rectus was present. The visual acuity was $^6/_9$ (letters) on both right and left sides. The fundus showed both discs somewhat swollen, with blurred margins. The appearance suggested a papillœdema which was subsiding, although the actual swelling could not be estimated. The Wassermann reaction was positive.

The patient was put under medical treatment and had increasing doses of iodide of potash and mercury, but no arsenobenzol or its derivatives. The diplopia cleared up. The patient felt quite well and remained so for many months. He had a relapse of the diplopia about nine months after the first attack, which cleared up with increasing doses of potassium iodide and mercury. He kept on taking anti-specific treatment on and off till March, 1920. About this time his wife complained that he was getting rather strange in his manner, was depressed at one time and quite elated at others and had frequent outbursts of temper, which were unknown formerly. At this time his pupillary reactions were not normal. They reacted sluggishly to light, but did so to convergence. The knee jerks were exaggerated and his general demeanour was that of a patient in the early stages of general paralysis of the insane. No grandiose ideas were present.

He was seen again two weeks ago, when his mental condition was worse and more suggestive of general paralysis. Although at present his condition is not such that he can be certified to, I am convinced from his present condition that he is steadily going downhill and will eventually become a general paralytic.

CASE III.—Mr. F.J., aged 51 years, consulted me in November, 1919, complaining of giddiness, headache and blurred vision for the past two weeks. No history of syphilis was obtainable.

The pupillary reactions were normal and the tension was normal. He had paresis of the left external rectus with diplopia. The fundus was normal and the Wassermann reaction was positive.

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on April 30, 1920.

The diplopia cleared up under potassium iodide and mercury. The patient appeared much better for a time. In January, 1920 (*i.e.*, two months after the appearance of the diplopia) he developed a somewhat slurred speech and appeared dull mentally, whereas previously his mental condition had been good. On account of this strangeness in his manner he was advised to come into hospital under one of the physicians.

The subsequent history of the patient has been related by Dr. Morgan, the patient suddenly becoming maniacal and having to be restrained and manifesting typical symptoms of general paralysis of the insane.

Case IV. illustrates a case of early *tabes dorsalis* in a patient with a previous history of diplopia three years before.

J.C., aged 56 years, complained of failing vision for some months previously, which he thought was due to general bad health.

The pupils do not react to light, but do so to convergence. The tension is normal. The knee jerks are absent. There is a slight Romberg's sign. The visual acuity is $^6/_4$ with both the right and left eye. Both the fundi show a slight pallor on the temporal side, but no actual optic atrophy is present. He has diplopia, due to an ocular paresis of the left superior oblique.

Under iodide of potash and mercury the diplopia cleared up and the patient felt much better, but as he had Argyll-Robertson pupils I advised him about the gravity of his case and sent him to Dr. Davidson for further treatment. No Wassermann test was done, but Dr. Davidson concurred with the diagnosis of *tabes* and gave him the necessary treatment.

SURGERY AS IT WAS PRACTISED THIRTY YEARS AGO.[1]

By **Norman J. Dunlop, B.A., B.Sc., M.B., Ch.M. (Syd.),**
Honorary Surgeon to the Newcastle Hospital, Newcastle, New South Wales.

It is interesting and profitable occasionally to sit down and make a retrospect, a review of the road along which we have come. It is never a straight road, but one with many windings, many ramifications, by-paths and pitfalls. How often, when we look back, do we see here a place where we fell through want of caution, there a place where we lost our way through ignorance and inexperience and, only after a lot of pain and groping in the dark, have we again set our feet on the high road. The road of progress seems eternal. It must have had a beginning in the dim and distant past when the earth was void in an intellectual sense and darkness reigned on the face of the deep waters of knowledge. I believe that that road will go on and on in the eternal future till that time comes when the more perfect day will dawn and the shadows flee away. Let us not think that we have learnt everything, nor achieved everything. We are still on the road and though the past can be reviewed, the future is always unexplored and the walking by faith and not by sight is what we must always be mindful of. We must always walk circumspectly! Let us not be lured by tempting fruits which grow in the by-paths to quit the high road. Never quit the high way for the by way. Novelties in the way of treatment or diagnostic methods, etc., are very tempting, especially to the young, but very often they are just vanity of vanities and have to be discarded. Let us not ridicule old methods and ways simply because they are old and boast that we are up-to-date when we are but handling some novelty, plucked from the tree of knowledge, which will become rotten before it is ripe. We are advised to prove all things and hold fast to that which is good: happy is he who follows that doctrine.

When the worthy Secretary of the Central Northern Medical Association asked me to read a paper at this meeting I was at first somewhat at a loss for a subject which would at once interest and stimulate. If I discussed some purely surgical subject I was afraid just a section of those assembled would be interested and the rest bored, whilst with subjects relating to medicine, eye, ear, nose and throat I am not competent to deal, as I have only a nodding acquaintance with them. With regard to that ever increasing number of special specialties, although I have been introduced to some of them, to others I am still a perfect stranger and it would be useless for me to attempt to say anything on a subject of which I have little or no knowledge. As we are all on that road I have already mentioned, I thought it would be wise for us to-night to come aside and rest awhile and just have a chat about the past. We do not, I am afraid, appreciate the great inheritance which is ours, nor revere sufficiently the memory of those workers who have gone before. The pioneers of any movement are like the foundations of a city, soon built over and forgotten. I have therefore chosen for my subject surgery as it was practised in Australia thirty years ago. You might ask why I chose that period. I do so for several reasons. It was in 1890 that the medical students were housed in the present building and left once and for all that four-roomed cottage, the cradle of the infant beginnings of the now great Sydney University Medical School. Also in that year the original curriculum died and a new curriculum, which provided for a five years' professional course in place of four, was born. Also the Chair of Anatomy and Physiology was divided, Professor Anderson Stuart retaining that of Physiology and the newly-formed Professorship of Anatomy was given to Professor Wilson, who has since achieved great fame in the world of science and brought much honour to the University. Of Professor Sir Thomas Anderson Stuart who has just recently passed from us, there is no need for me to speak; his career and achievements are well known to us all. His certainly is a monument more lasting than brass. Finally it was in 1890 that I entered on my career as a medical student; and a student of medicine I hope to be till the end of my days.

Specialism was not in those days what it has become since and there were very few pure specialists to be found, even in the capital cities. I may say here that with the exception of Professors Wilson and Mills, a graduate of our own, the whole of the teaching staff of the Medical School has changed since 1890. The surgeons of Sydney and Newcastle were, as far as I can remember, at that time Messrs. Hankins, Twynam, MacCormick, Samuel T. Knaggs, Joseph Foreman, C. P. B. Clubbe, William Chisholm, E. T. Thring at the Royal Prince Alfred Hospital. Sydney Hospital had Messrs. Harman J. Tarrant, Craig Dixson, Maurice J. O'Connor, W. H. Goode, H. A. Ellis, T. Fiaschi, T. Chambers and R. Worrall. Other Sydney surgeons whom I remember, were Messrs. Milford and C. W. McCarthy. In our own Newcastle Hospital,

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on April 30, 1920.

among others, were Messrs. Beeston, Nickson, Harris, Hester, Treloar, Nash, Stapleton, V. E. Ludlow and Smith.

"Where are they now, I wonder, with whom those years were passed?" Many of them have gone to their rest. Time would fail me to tell of all their characteristics, virtues and idiosyncrasies, but they were all good men and true, and we have to thank them for the surgical foundations they laid deep and firm, foundations on which the super-structure which we behold to-day was built. Happily "there are still some few remaining who remind us of the past." They are older, more experienced and do to-day as ordinary every-day work, yes and with certainty of success, operations which, in those days, were only done as a last resource and with an appalling death-rate.

A change has come over the dress of the surgeons and nurses and the preparation of the patient, too, was somewhat different to that which obtains now. In those days the surgeon wore a white coat and apron and trusted implicitly, almost without exception, to the virtues of antiseptics. In these days, what with headgear, masks, cloaks, india-rubber boots and an implicit faith in gloves, our present-day surgeon reminds one of a member of the Ku Klux Klan. How we protect the field of operation now from contamination from the skin, how an urgent abdominal operation can be done very soon after the advent of the patient to the hospital with very little risk, how we can do many things now which we could not do then, is all another story and I am digressing. But this degree of perfection did not take place in a day. It was the result of much labour, much self-sacrifice and research. All honour to those men who endured the heat and burden of those days.

About this time also the names of some of our own graduates appear in the journals, writing articles. I find in journals of that date papers written by Drs. Hester, Stewart McKay, L. G. Davidson, Æneas J. McDonnell, A. E. Perkins, C. L. W. Hunt and Townley. In these days we hear very little about the *tactus eruditus*. It seems to be a lost art in these days with the instruments of precision at our disposal, but in the early nineties it was a very real virtue. I remember the late Dr. Chambers saying that if he had to lose his right eye or his left forefinger he would prefer to have his eye out. Another thing that strikes one in reading the journals of that period is the frequent use of the aspirating syringe. It was used in all sorts of cases and under all sorts of conditions and not always without danger to the patient. Dr. J. B. Ross in 1890 wrote an article in which he advocated the performance of a probatory incision in preference to the use of the aspirating needle. The title of his paper is "Probatory Laparotomy; Fallacy of Preliminary Puncture." He concluded his paper with the remark: "These lines are only intended to warn against results from preliminary puncture." Prophetic utterances are occasionally met with in the journals. One writer, after describing a case of tetanus, stated that in his opinion tetanus would in time be treated by some sort of serum.

The work done in those days was excellent as far as it went; the surgeons then were just as dexterous as their brethren of these days. A great deal of work was done in connexion with the treatment of hydatids and excellent discussions took place at the Inter-Colonial Medical Congresses. The subject for discussion in the 1892 Congress was incision *versus* aspiration.

All the cavities of the body were opened on different occasions. The skull was trephined for tumours of the brain and compound fractures. The tumours were chiefly situated in the motor area and some excellent results were obtained, but the *sella turcica* and the *hypophysis cerebri* and the deeper parts of the brain were still the "Holy of Holies," into which no man dared to enter. The surgery of the neck also was well advanced; glands were removed, tracheotomy was done, but cases of thyroidectomy were few and far between. One gentlman, in describing a successful case, says: "I wish to express my indebtedness and thanks to my colleagues for their valuable advice and assistance in a most trying operation." An oblique incision was made over the left lobe of the goître, extending from the angle of the jaw to the supra-sternal notch. The subcutaneous tissues were carefully divided, also the stylo-hyoid, thyro-hyoid and the omo-hyoid muscles; and finally the sterno-mastoid had also to be divided. It was evidently a tumour of large dimensions. I do not know whether or not a printer's error crept in in the naming of the muscles which were divided, but in these days the pretrachæal muscles are separated in the middle line of the neck and then retracted and in the majority of cases this is all that is necessary. But if any of the muscles require dividing, they are the sterno-hyoid, sterno-thyroid and omo-hyoid. The collar incision was not used and a "Dunhill" had not yet arisen to elaborate and simplify the technique of the operation. Our knowledge of the parathyroids was still in the womb of the future. Thyrotomy for papilloma of the larynx was reported once. In looking up in Walsham's "Surgery" (my old text-book used then) for the treatment of exophthalmic goître, we are referred to a text-book of medicine. A successful case of laryngectomy was also reported about this period.

A considerable amount of attention was paid to the surgery of the chest and thorax. The breast was removed for malignant and other conditions requiring attention. The removal of the breast was not such a radical operation as it is to-day. The pectoral muscles were not removed, although the fascia covering the great pectoral was cut away sometimes. The axillary glands were removed, but I do not think that they could have been so thoroughly eradicated as they are to-day. Operations in the precancerous stage were not reported. Hydatids of the lung and purulent collections of fluid in the chest were attacked, but surgical operations on the lung, thoracotomy and thoracoplasty and other measures of to-day were then unheard of, as far as I know. The abdomen, that region of mystery and surprise, gave a lot of trouble to the surgeons. Gastro-intestinal operations were few. I can only find two cases of gastro-enterostomy and both were done with the use of Senn's decalcified bone plates; one was done by the late Dr. Hankins

and the other by the late Dr. J. W. Hester in our own hospital. Dr. Hankins's patient lived for some months and then died and a *post mortem* examination was made, when it was found that the opening between the stomach and the intestine had completely closed up. Dr. Hester's patient died twenty-five and a half hours after the operation. The *post mortem* notes in this case say that the parts were in good apposition and lymph was thrown out between the opposed surfaces. There was a good patent canal between the stomach and jejunum; the portion of the intestine which was exposed, was congested, but there was no peritonitis. An operation which was spoken of in those days, but one which we do not hear of now, was Loreta's operation, which consisted in opening the stomach and forcibly dilating the pyloric or cardiac end for stricture and then closing the opening in the stomach by sutures (Lembert's method). It was in 1890 that Sir Alexander MacCormick, then quite a young man, did a pylorectomy on a woman with complete success. This was, I think, a great feat. If it was not the first, it was one of the earliest cases of successful resection recorded in Australia. It was an end-to-end union and not the style of operation that is generally done now. I may be pardoned if I refer more particularly to this case. In describing the steps of the operation Sir Alexander says: "On opening the peritoneum the pylorus could be felt freely movable, hard and smooth, considerably thicker than the wrist and tapering towards the duodenal end. The pylorus was now drawn into the wound, whilst the attachments of the stomach to the great omentum below and the lesser above was ligatured off. The pylorus could now be lifted freely out of the wound; a large flat sponge was placed in the abdominal cavity and a fold of aseptic gauze drawn under the isolated pylorus. An oblique incision was then made down and to the right through the stomach walls with a pair of straight scissors, beginning at the lesser curvature and keeping well clear of the growth, thus a gaping wound was left in the stomach extending about two-thirds of the way across it. This was now closed in the greater part of its extent by a row of silk stitches (Lembert's method). The ends of the stitches were left loose, so as to give a hold on the viscus. The pylorus was now freed from the body of the stomach and turned to the right side. The duodenum was next divided for two-thirds of its circumference on its posterior aspect. The divided part was attached to the corresponding part of the cut end of the stomach by a closely-set row of silk stitches, which were not yet tightened. The remainder of the circumference of the duodenum was now severed and the stitches knotted on the inside. Then as many stitches as possible were inserted from the inside. The point of junction of the stomach and duodenum was now turned over and a second row of stitches introduced behind and this was carried on all round and also along the oblique incision in the stomach. When the stomach was allowed to drop into its normal position, it looked remarkably natural." The actual time of the operation was under two hours. This woman was exhibited two years after at the 1892 Congress, which was held in Sydney. The woman was in good health and had put on weight.

Hernias were operated on, but the certainty of success was not so great as it is to-day. Wood's, Bank's and Ball's operations, amongst others, were rather popular. One surgeon referring to his treatment of the contents of the sac, says: "In one or two of my cases I had intended doing Ball's operation, but, finding a considerable amount of omentum in the sac and rather than run the risk of hæmorrhage by dissecting it off, I put a stout ligature round the sac and omentum together, cut off the redundant portion and fixed the stump to the pillars of the ring without twisting it." Another surgeon, of a metropolitan hospital, wrote: "Only occasionally does a person suffering from hernia apply to me for operative relief, nor do I deem it desirable to recommend operative measures for the cure of a hernia, which may be retained by a comfortable apparatus. Whether with the knowledge of the frequency with which operation is resorted to in England for the replacement and retention of reducible hernia, we shall here resort more often to the knife I do not know; certainly in the past little has been done. The records of this hospital for the last ten years show thirty-three operations only have been performed here for hernia and about half of these were for strangulation without reference to radical cure." It was Bassini, I believe, who was the first to recommend an operation which at all resembles the operations which are done to-day for the relief of this most troublesome disability.

The surgery of the appendix received very little attention and the diagnosis seems to have been obscure. Walsham (Edition 1890) recommended the reader to refer to a text-book on medicine for the treatment of typhlitis and perityphlitis. Should, however, the inflammation terminate in suppuration and an abscess form, it should be opened and drained, or should the abscess burst into the general peritoneal cavity, the peritoneum should be washed out. The appendix, if found inflamed, plugged with a foreign body, ulcerated or gangrenous, should be amputated and sutured by the Lembert method. When it appears that recurring attacks of typhlitis are due to mischief in the appendix, the question of removing the appendix after the acute attack has subsided, may be raised. I can only find one paper on appendicitis in the 1892 Congress reports. At the same Congress Drs. Rennie and Purser read a paper on the position of the vermiform appendix. They say: "In view of our increasing knowledge of the pathology of some forms of localized inflammation in the region of the caecum and the more frequent operations for the removal of the vermiform appendix as being in many cases the seat of the origin of the said inflammation, we have been making a series of observations on the position and relations of that structure." Some cases diagnosed as intestinal obstruction would now be probably recognized as cases of suppurative appendicitis. In these enlightened days I am afraid the pendulum has swung to the other extremity and the appendix is wrongly accused of being the seat of trouble when other pathological states and other organs or structures are the real culprits. The gall bladder was opened occasionally for the removal of stone, but all or any of the "ostomies" which we now do between the gall bladder or bile duct and the intestines, etc.,

are not recorded in the journals of the day. Cases of nephrolithotomy were also considered of sufficient importance to record.

Still keeping to the abdomen, very few cases of Cæsarian section or hysterectomy are found described. The technique of these operations has changed very much and for the better since then. Dr. Worrall in his Presidential Address to the Gynæcological Section at the Medical Congress, held at Hobart in 1902, says: "In the domain of gynæcology no change is so striking as the modern view regarding the treatment of myomata and the immense improvement in the technique of hysterectomy. Patients were generally left till health had been seriously undermined." Hysterectomy for myomata was done thirty years ago with the aid of a *serre nœud*. The part of the uterus which contained the tumour was strangled with this instrument and the redundant portion cut away with the knife. If hæmorrhage took place a day or two after the operation, the instrument was screwed up to tighten the snare. Vaginal hysterectomy was also done, but pan-hysterectomy was a most formidable operation. It was only after years of patient endeavour that the present method of dealing with the uterine and ovarian arteries and the broad ligaments was evolved. Howard Kelly, Professor Watson, of Adelaide, and the late Dr. Way, of Adelaide, did good work in this direction. Dr. Worrall says: "It has been asserted that Professor Watson's method is Howard Kelly's with slightly different details, but I think it will be granted that details constitute much of the art of surgery and I claim that in his method of attack (opening up a rhomboid-shaped space in the anterior blade of each broad ligament as a first step), Professor Watson has given us a detail of such importance as to warrant us in applying his name to the operation. Napoleon's method of attack gave him the victory over his rivals and increased his power to destroy. Professor Watson's method of attack gives it an advantage over rival methods and increases our power to save." Dr. Way was the first in Australia to ligature separately the vessels at the inner and outer end of the utero-ovarian vascular arch in operations on the uterus and its appendages and this was done before the publication of Howard Kelly's book. Dr. Watson says (Transactions of 1902 Congress): "Of primary importance is the use that may be made of the round ligament as a land-mark for locating the vascular supply of the uterus and adnexa, which must be secured or at least located in so many operations on the pelvic viscera. In abdominal hysterectomy and in the removal of intra-ligamentous growths, it (and not the infundibulo-pelvic fold) should form the first point of attack, as by cutting it across with some adjacent peritoneum, the utero-ovarian vascular arch is exposed on the floor of the rhomboid space, thus opened up in the broad ligament. All the veins coming from an ovarian cyst or from the most adherent complicated sacto-salpinx, can be garnered on the finger and secured by two ligatures, one on the pelvic side of the ovary and the other on its uterine side. Intra-ligamentous growths, cystic or solid, whether isolated or connected with the side of the uterus, are at once rendered accessible, sometimes without even dividing the exposed vessels (utero-ovarian arch) coursing over the surface."

We have made great strides also in the treatment of extra-uterine pregnancy. There were but few cases of ectopic gestation reported and they were mostly fatal. The surgeons seem to have recognized the condition, but there was generally a considerable amount of delay before the abdomen was opened. Everything seems to have been tried first. Laparotomy was the last resource. It is a fearsome sight for those who see the abdomen opened for the first time in a case of ruptured extra-uterine pregnancy, even in these days. What must it have been to those worthy pioneers in gynæcology. The condition was sometimes attacked by a vaginal operation, sometimes electricity was used, and it seems to me that, when the patient was hardly in a fit condition for a laparotomy, the abdomen was opened. In these days any one accustomed to pelvic or abdominal surgery is surprised if any of these patients die. A considerable number of cases of extra-uterine pregnancy must have been missed, or the condition is chiefly a product of these unregenerate days, "*O tempora, O mores.*" The doctrine now, generally speaking, is this: If you meet a case of ruptured ectopic gestation in the day-time, never let the sun go down without according relief and if you meet a case at night, never let the sun rise without opening the abdomen.

Intestinal obstruction was a very fatal condition and the results of treatment were so appalling that one gentleman in discussing the subject at a meeting at which papers on intestinal obstruction were read, made the remark that in his opinion the surgeons were more fatal than the disease. Again, how many little children died of intussusception simply because we did not know how much a child could stand in the way of operative interference? The treatment in the early nineties was by injection of air or some form of fluid into the bowel with the hope that reduction would take place; very vigorously was this treatment applied at times. On more than one occasion the gentleman who manipulated the bellows, was not certain that he had not burst the gut. One speaker in a discussion on intussusception at one of the meetings of the British Medical Association, said he had a vivid recollection of a case, as it was he who worked the bellows and he used such force that he was asked at the time, by a by-stander, if it was his desire to blow up the patient. Sometimes inversion of the patient was the mode of treatment; sometimes only medicine was given in the hope that the intussuscepted gut would slough and be passed by the bowel. The child was held by the feet and shaken up and down. Occasionally these methods were successful, but in those cases which were still unreduced, and little the sufferer was beginning to show wear and tear, a laparotomy would be done, as it was said to give the child a last chance. One cannot help thinking what a pity it was that the process was not reversed. Laparotomy first and the bellows afterwards, for then the amount of pressure in the bowel could be gauged and the effect on the intussusception could be seen. Some surgeons, even in these days, advocate immediate laparotomy. However, improvement can only be gained by experience. I came across three recorded cases of intussusception, all of which were fatal.

Suppurative conditions in the abdominal cavity had

a very high mortality rate. When the abdomen was opened and pus discovered, the bowels were often taken out, all the plastic lymph removed and the whole contents of the abdomen had a thorough washing and very often a quantity of boracic lotion or other fluid was left in the abdominal cavity and the patient put back to bed, often suffering severely from shock. We did not give the peritoneum much credit for dealing with infective processes, nor the omentum that pat on the back which it richly deserves for acting as the abdominal policeman. Now I am afraid we sometimes ask the peritoneum to do even more than its share.

I have not nearly exhausted all that one might say of the surgery of thirty years ago, but I shall soon have to push in the clutch and apply the brake or I shall weary you. There was no bone nor reconstructional surgery such as we know it to-day, but joints were excised, jaws removed and I remember seeing a very successful case of rhinoplasty. The seeds of modern urology were just beginning to germinate. Howard Kelly, with the endoscope, had examined the interior of the female bladder and had passed catheters into the ureters. Enlarged prostates were occasionally dealt with; but prostatectomy, as we know it to-day, was unheard of. Occasionally the obstruction was overcome by punching out a piece of the prostate with an instrument invented for the purpose or by boring a new channel with the galvanocautery. Also, the bladder was opened above the pubes and the obstructing portion of the middle lobe was removed with knife or cautery.

One word more. It has always seemed to me a pity that a course of lectures on the history of medicine could not be delivered during the medical students' course, including the healing art as it is practised among the primitive races of the human family. The subject is fascinating and is as delightful as even the best of fiction. How many detective stories are there in that history. How exquisite is that tale which is told of the discovery of the cause of malaria and there are one thousand and one equally charming surgical detective stories, more fascinating than Conan Doyle, even at his best. It also tells us how few really new things there are under the sun. Again, would it not be glorious if one of our multi-millionaires would die and leave us, or live and give us, sufficient funds for the establishment and maintenance of a surgical museum so that students might see the evolution of our art from its earliest beginnings?

Now I have finished. I realize that I have not done that justice to the subject which it deserves. I have not the pen of a ready writer and lack of leisure accounts for many imperfections in this paper. If, however, I have succeeded in giving some entertainment or arousing an interest in the work of past years, my labour has not been in vain. Seeing, then, that we are surrounded by that great crowd of witnesses, that noble band of earnest, devoted workers who have gone before, let us run the race set before us, worthily playing the game towards each other and using our best endeavours to reduce in some measure human suffering. We have great responsibilities, but we also have great privileges. Let us see to it then that we take advantage of these, so that when our time comes to lay aside the scalpel and forceps, it will be said of us: they did what they could and they rest from their labours.

DEMONSTRATION OF THE METHOD OF SELECTING SUITABLE DONORS FOR BLOOD TRANSFUSION.[1]

By **Robert Dick, M.B., D.P.H.,**
Medical Officer of Health, Hunter River District, New South Wales.

It has long been known that the blood of all individuals falls into one of four blood groups, that this grouping becomes established during the first year of life:—

8% belong to Group 1.
40% belong to Group II.
10% belong to Group III.
42% belong to Group IV.

The incompatibility of the blood from one group for that of another may be demonstrated by mixing the corpuscles of a person belonging to one group with a drop of serum of a person of a different group, the results of incompatibility being shown by hæmolysis and agglutination of the red cells. Not all the groups possess the same incompatibility as the following table shows:—

Table.

Cells of Group.	Serum of Group. 1	2	3	4
I.	—	+	+	+
II.	—	—	+	+
III.	—	+	—	+
IV.	—	—	—	—

\+ = Agglutination and hæmolysis.

From this table it will be seen that the blood cells of a Group IV. individual are not affected by the serum of any of the other groups. A person belonging to Group IV. may therefore be used for transfusing any of the other groups and is therefore a universal donor. Conversely a person belonging to Group I. is a universal recipient from all the other groups, as his serum does not act on the corpuscles of any of the groups, for it is the action of the serum of the blood which is the important factor to be taken into consideration.

In regard to the selection of suitable donors for blood transfusion, one must be in a position to group the proposed donor and recipient, but if Group IV. donors are available beforehand, they may be used for any case without further delay.

To provide oneself with test samples of the sera of the four different blood groups, a large number of bloods are examined. When the blood of one known group is available, this work is easier and if the sera of persons belonging to Group II. and III. are available, the classification of any person can be carried out in a few minutes in the following way:—

A drop of Group II. and one of Group III. serum are placed at intervals on a clean slide. The finger of the person to be classified is pricked with a needle and a drop of his blood is taken on the end of a wooden match or tooth pick and rubbed up in the drop of serum, separate pieces of match being used for each of the drops. The slide is then gently rocked for three minutes or so and clumping of the red cells looked

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on April 30, 1920.

for with the naked eye. By referring to the table above, it will be seen to which group the proposed donor belongs, for if no clumping or hæmolysis of his cells take place, then he belongs to Group IV.. If clumping of the cells in both drops takes place he belongs to Group I.. If clumping occurs in No. 2 serum, but not in No. 3 serum drop on the slide, then he belongs to Group III. and if in No. 3 drop and not in No. 2, then he belongs to Group II..

The process of differentiation is then a very simple and quick one, provided sera of Groups II. and III. are available. These hæmagglutination sera are put up by the Lister Institute of London and by different firms in America. No doubt, very soon they will be made available by the Commonwealth Serum Laboratories, so that practitioners in hospitals or in private work will be in a position to carry out this simple method of the selection of suitable donors for blood transfusion.

Clinical Studies.

FROM THE DEPARTMENT OF MEDICINE, UNIVERSITY OF SYDNEY.[1]

I.

BRONCHITIS DUE TO EMPYEMA OF THE MAXILLARY ANTRUM.

By **A. E. Mills, M.B., Ch.M. (Sydney),**
Professor of Medicine, University of Sydney.

I wish to relate to you to-day three cases which present features of exceptional interest.

The first is that of a boy, aged six years, who developed bronchitis and broncho-pneumonia during infancy. Ever since his illness he has suffered from bronchitis, attended with a loose, frequent and irritating cough. He has had frequent attacks of broncho-pneumonia, for which he was attended by Dr. Mark Lidwill. When the broncho-pneumonia cleared up, the bronchitis remained, for scattered over the lungs there were rhonchi and coarse râles. Dr. Lidwill noticed about this time that there was a mucopurulent discharge from the nose and that a similar discharge was to be noticed at the back of the pharynx. Thinking that there might be some infection of his sinuses, he sent the child to Dr. Herbert Marks, who found both maxillary antra full of pus.

The second case is that of a girl of nine years of age, who has suffered from bronchitis from infancy. She has not been free of cough, loose, frequent and irritating, and she has always had wheezing over her chest. On examination of the chest, scattered rhonchi and coarse râles were to be heard, especially at the bases of the lungs. The symptoms in this case were so like that of the previous case, which Dr. Lidwill related to me, that I thought it probable one might find pus in the antra. I sent her to Dr. Herbert Marks, who reported that both antra were full of pus.

A few weeks ago a little boy, aged 14 years, was sent to me by Dr. Macartney, of Grafton. This child has suffered from bronchitis from infancy. He has never been free from wheezing and cough, the same loose, frequent, irritating and ineffectual cough as was present in the other cases. On examining this child's throat, I was fortunate enough to see yellowish pus on the back of the pharynx. There were scattered rhonchi and râles to be heard over the chest. Having the other cases fresh in my memory, I thought it extremely likely that the pus which I saw in the throat, was coming from a collection in one of his sinuses. Accordingly I sent him to Dr. Marks, who reported "both antra full of pus."

Here, then, we have three cases of chronic bronchitis in children. The bronchitis began in infancy and persisted ever since. Each of them had the same short, loose, irritating, ineffectual cough, giving the impression of phlegm being constantly present in the throat and being only partially dislodged. In each of these children the antra were found to be full of pus.

I bring these cases under your notice because I feel sure that, if within twelve months three such cases have come under my notice, the condition must be fairly common. Therefore, I wish to urge upon you the necessity of having the nose and accessory sinuses thoroughly examined in all cases of persistent bronchitis in children. This is my real reason for bringing these cases before you to-day.

On thinking over these cases many questions will naturally occur to you. You may well ask: "Was the empyema primary and the bronchitis secondary, or *vice versâ*?" I think that the bronchitis is the primary trouble and that, as it persisted, other parts of the respiratory tract, including the antra, became infected. I would be surprised to learn of an infection of the antra without any previous infection of the upper part of the respiratory tract.

Further, bronchitis is a much more common ailment than empyema of the antra. When this occurs in connexion with bronchitis, it implies a widespread infection of the respiratory tract.

Then you may ask what is the prognosis and treatment in such cases? It will be obvious to you that treatment of the bronchitic state without recognizing the existence of pus in the antra will be futile. The first indication is to have the antra well drained. This will get rid of a permanent focus of infection, a focus that may well be responsible for the persistence of the bronchitis. When this source of infection is removed, the outlook will, I feel sure, be immeasurably brighter. Then we may, by means of rest and vaccine and drug therapy, justly hope to increase the resisting powers of the patient so that he may quite overcome the disease.

[1] Being a clinical discourse delivered to students at the Royal Prince Alfred Hospital.

Reviews.

PHYSIOLOGY IN MEDICAL PRACTICE.

It is not surprising that, as soon as possible after the termination of the war, Dr. Langdon Brown should have issued the fourth edition of his valuable little book "Physiological Principle in Treatment."[1] There has been no publication in recent years of such general value to the busy practitioner as this little book, for it enables him, with a minimum expenditure of time, to ascertain the bearing of the most modern ideas of physiologists on the actual practice of medicine. It is not to be expected that the last word has been said on many of the subjects dealt with; and, indeed, Dr.

[1] Physiological Principles in Treatment, Fourth Edition, by W. Langdon Brown, M.D., F.R.C.P.; 1919. London: Baillière, Tindall & Cox; Crown 8vo., pp. 427. Price, 7s. 6d. net.

Langdon Brown himself says that: "Physiology can only come to the aid of medicine with becoming modesty and without overweaning dogmatism"; but one cannot read such chapters as that on "the triumph of organo-therapy," "glycosuria and diabetes," "vasomotor system in disease," "albuminuria and the treatment of nephritis," or "irregular action of the heart" without feeling that real help has been obtained in understanding something of the underlying principles that should guide our treatment.

In addition to the above there are chapters on "the rational treatment of gastric disorders" and on "mechanical factors in digestion and indigestion." The former is full of useful hints, with a discussion on the chemical and nervous factors in digestion and a very full consideration of any possible value from rectal feeding, which shows the futility of this troublesome procedure, and its absolutely injurious effect on cases of ulcer hæmatemesis. A very excellent summary of a modified "Lenhartz" diet is given, showing the daily feedings in these cases with their caloric value, but one is rather surprised to find no reference to the great importance of alkalizing all the milk in these cases.

In the chapter on mechanical factors, there is much food for thought and one could venture to suggest that many surgeons would find useful hints here as to the probable causes of the failure of some of their gastro-jejunostomies and other abdominal surgical interferences.

Taken altogether, the book is one that should be read by every practitioner of medicine, for it will surely lead to a more intelligent understanding of disease and to the clearing up of many difficulties of treatment.

CROSS-FIRE RADIUM AND X-RAY THERAPY.

Dr. Herman Lawrence has furnished us with the following addendum to the report of his case of inoperable malignant tumour of the tonsil, jaw and neck and of the base of the brain (see *The Medical Journal of Australia*, May 15, 1920, page 458). Unfortunately these notes arrived too late to be appended to the report.

I purpose to subject my patient still further to one or two 'after treatments" of the nature of cross-fire treatments (radium and X-rays), the radium tubes acting from the naso-pharynx and the X-rays to be applied through the trephined area of the temporal bone.

The following experiment helps to show the value of cross-fire (radium and X-rays):—

(*a*) Ten larvæ of the *Bombyx mori* four weeks old, were subjected to a radium radiation (a legitimate therapeutical dose), which we will call x.

(*b*) Ten larvæ of the *Bombyx mori* four weeks old were subjected to an X-ray radiation (a legitimate therapeutical dose), which we will call y.

(*c*) Ten larvæ of the *Bombyx mori* four weeks old were subjected to radium radiations as in (*a*) and during the last few minutes of the exposure X-rays were applied similar to (*b*) as a cross-fire, that is, the larvæ had an exposure $x + y$ (cross-fire).

(*d*) Ten larvæ as above were kept as control.

Result of Experiment.—(*d*) The larvæ went through the natural process of metamorphosis and in six weeks' time after the experiment, they were all in cocoons and had been so for about two weeks. The natural life of this larvæ is seven to eight weeks.

(*b*) The larvæ behaved practically the same as in (*d*) experiment, that is, the X-rays exposure had produced very little effect upon the natural metamorphosis of these larvæ.

(*a*) The larvæ were profoundly affected, several had died whilst moulting, two had become chrysalides, but with very poor cocoons and two had their natural grub life extended by two weeks and were then feebly attempting to spin.

(*c*) The larvæ were still more profoundly affected than in (*a*) experiment; most of them died during moulting. Four had their natural lives extended two weeks and, of these, one larva was still alive at twelve weeks, making an increase of the natural life of 50%; two others lived to eleven weeks. These larvæ had then all become too enfeebled to undergo metamorphasis and so any chance of reproduction was impossible.

This and other experiments I have carried out show that the value of a cross-fire is not merely the sum of the treatments applied. For in experiment (*c*) the y treatment produced very little effect, but when combined with (*a*), the result was most marked.

My experiments aim at obtaining some idea of the therapeutical value gained by cross-fire therapy under different circumstances.

I would suggest for this cross-fire result the term collision value or C, so that the formula for the experiment above described would read $x + y$ (cross-fire) or $x + y + z$ (collision value). The collision value is, of course, a varying quantity, depending not only upon the quantity of the radiations taking part in $x + y$, but more particularly depending upon the quality of some when they meet in the pathological tissue to be treated.

My experiments give rise to the somewhat paradoxical suggestion, *viz.*, the cure of disease by prolonging the life of the organism causing the disease. For if we subjected a patient infested with maggots (larvæ of the blow-fly) to a cross-fire radium therapy and by so doing prolonged the natural life of these maggots 50%, the maggots would be unable to metamorphose into blow-flies, there would be no reproduction and so maggots and disease would die out.

Dr. R. R. Stawell has sent us the following commentary on Dr. Herman Lawrence's case:—

On January 4, 1920, I saw this patient in consultation with Dr. Lawrence. It was stated that a few weeks previous to my examination the patient began to suffer severe pain in the head. The pain was extensively distributed over the head and, although worse on the left side, was not limited to the distribution of the branches of the 5th cranial nerve. The headache was associated with vomiting and was so severe as to prevent sleep.

A week or so after the pain had occurred, the patient found one morning that he could not open the left eye. On examination he was found to have ptosis of the left eye, with weakness of the left internal rectus and a marked external squint.

So far as I could judge by examination, no other muscles supplied by the 3rd cranial nerve were affected.

There was no optic neuritis; there was no proptosis; and the 4th and 5th cranial nerves appeared to be unaffected. There was very definite anæsthesia over the area of distribution of the ophthalmic and maxillary divisions of the 5th cranial nerve. There were no other abnormal neurological signs.

There could be little doubt that the growth had extended through the floor of the cranium and was compressing some of the branches of the 3rd cranial nerve and of the 5th cranial nerve in the sphenoidal fissure. It was also compressing the superior maxillary nerve, probably about the *foramen rotundum*.

The remarkable success of the application of radium to the original area of growth suggested its use in the treatment of the intra-cranial extension of the growth. I recommended that the cranium should be trephined in such a position as would make it possible to apply radium in the closest proximity to the sphenoidal fissure area. I recommended that the *dura mater* should not be opened.

Dr. G. H. Anderson, Lecturer on Anatomy at the Medical School of the Melbourne University, kindly took measurements to determine the distance from the outside of the anterior and lower part of the squamous portion of the temporal bone to the sphenoidal fissure. Dr. Anderson demonstrated to me that from the outside of the skull in this area to the middle area of the sphenoidal fissure on the same side was 2,1 cm. to 2.2 cm., while the distance from the base of the sphenoid to the middle area of the sphenoidal fissure was 3.5 cm..

It is obvious, therefore, that the area of the trephine opening offered definite advantages for the application of the radium, as regards proximity to the part apparently most involved in the sphenoidal fissure.

I saw the patient three weeks after the operation and after several applications of radium. He had then no pain, no headache, no vomiting, had gained weight and could voluntarily partially open his left eye.

There was still, however, weakness of the left internal rectus and there was slight anæsthesia over the two upper divisions of the 5th cranial nerve.

This case seems to me an additional evidence of the very marked therapeutic value which follows the application of radium in certain types of growth.

The Medical Journal of Australia.

SATURDAY, MAY 22, 1920.

The Value of Clinical Records.

Close on six years ago, when *The Medical Journal of Australia* was founded, the medical practitioners of the Commonwealth were invited to contribute clinical records to its pages. It was pointed out that the opportunity was not given to every practitioner to undertake elaborate research, nor were facilities often available for the busy general practitioner to collect long series of cases for the purpose of controlling the conclusions of other clinicians. On the other hand, every practitioner meets with interesting and instructive cases in the course of his practice. The record of these cases forms an important asset to a medical journal and has a considerable didactic value to the medical profession. The readers of this *Journal* have not responded to this invitation to anything approaching the anticipated extent. The limited amount of clinical material published in our columns has been the subject of criticism, justified no doubt, but wrongly directed. We have sought aid from the responsible officers of the great metropolitan hospitals, but have received small encouragement. We have approached those who asserted that the *Journal* failed to provide the general practitioner with the form of articles he required, only to hear excuses that they were too busy to write. During the war it was felt that no protest should be uttered. Now that the medical profession is returning in full numbers to civil practice, more energetic steps must be taken to remedy the defect. The increase in the size of the *Journal* depends on the support given it by the members of the medical profession within the six States. We look to the members to contribute original articles to their own Australian Journal and not to seek an avenue of publicity in other parts of the world. We appeal to the general practitioner to submit accounts of cases which appear to him worthy of record, even if this should entail a little additional work in a busy life. We ask the surgeons and physicians at our great hospitals to bring for the benefit of the profession at large something of the wealth of teaching material lying at their disposal.

In the present issue we publish the first of a series of "Clinical Studies," by Professor A. E. Mills. Professor Mills is singularly happy in the concise and eloquent way in which he discovers the lessons to be derived from his clinical observations. He finds in three instances of an otherwise common condition, an association that should be noted and remembered. He deduces from what he has seen a doctrine worthy of consideration. His first "Clinical Study" is skilfully selected and equally skilfully elaborated. Contributions of this kind enhance the value of this *Journal* and provide its readers with subjects on which thought may be expended with advantage. Perhaps other teachers in our medical schools will emulate Professor Mills's example and add clinical studies of their own, characterized in different ways and fashioned to conform with each one's peculiar method of imparting knowledge. Space can always be found for articles of educational value.

To the medical practitioners who have elected to restrict their energies to one or other of the many special branches of medicine and surgery, we would point out that the conditions in Australia differ greatly from those in the Old Country. The general practitioner in England has in nearly every district some specialists to whom he can refer his patients for diagnosis or treatment. In the vast continent of Australia, the practitioner "out back" has no choice. He must serve as ophthalmic surgeon, laryngologist, otologist, gynæcologist, urologist and so on, as well as general practitioner. He labours under a grave disadvantage, in that he has no means of obtaining special training in all these intricate branches of medicine and surgery. His practice is situated too far from the centres to seek post-graduate training. Moreover, even if he were able to attend the medical schools from time to time, the instruction he would seek is not available. In these circumstances he looks for instruction through the columns of his own journal. He expects that those who specialize in these branches of the healing art, will impart some of their particular knowledge by recording the clinical signs and symptoms of pathological processes, not as they are described in text-books, but as they appear in actual practice. The specialist need not fear that his

lessons will fall on deaf ears. Our country practitioners are ever ready to learn and to apply information handed on in this way to their patients. We are prepared to publish articles dealing with these subjects, so that they may reach our colleagues in the back blocks. If specialists insist on sending their contributions to the specialist journals "on the other side," these men will be deprived of valuable lessons. In short, we ask that all medical practitioners in the Commonwealth should realize that they have a part to play in supporting their journal. That part may be large or small. It may appear insignificant to the individual. Let us judge whether it has or whether it has not a place in our columns.

BACTERIAL INFECTION OF THE LUNGS.

It is usually taught that pulmonary tuberculosis is the result of an infection by inhalation of bacilli through the air passages. The physician and the pathologist have endeavoured to overcome the difficulty of explaining the mode of infection by assuming that the tubercle bacillus can pass through the mucous membrane without damaging it and can either form a local focus of infection in the connective tissue or can pass into the pulmonary lymphatics and lymphatic glands, from whence the infective process spreads. It has been demonstrated many years ago that minute, light particles can be carried into the alveoli by the air stream, but that in this journey a very large amount of deposition takes place on the protective epithelium of the upper respiratory tubes. Carbon particles may penetrate to the alveoli, but the amount that reaches the air cells is trivial as compared with the quantity caught up in the mouth, trachea and primary bronchi. It is obvious that bacteria reach the alveoli in such small quantities that the tissue and tissue fluids would have no difficulty in destroying them. Moreover, the lesions of a tubercular infection of the lung do not start from the surface of the air passages to spread into the connective tissue. The infection is more deeply situated. In the case of more acute pulmonary infections, such as those caused by pneumococci, streptococci and the like, there appears to be a direct invasion through the air passages. But certain facts are recognized which would tend to show that the mere inhalation of these bacteria is insufficient to initiate an infection. A person may harbour pneumococci in considerable quantities in his oral cavity without falling a victim to pneumonia. The absence of infection is obviously not due to protective immunity, for a temporary disturbance of the circulation in the respiratory organs may determine an attack. In certain infective processes, such as morbilli, a change is induced which predisposes the patient to an inflammatory affection of the lungs. In these cases the pulmonary lesion is usually lobular in character. It therefore is probable that the pulmonary infection starts from the lymphatic system of several small bronchioles.

Some of the workers in the Brady Laboratory of Pathology and Bacteriology at the Yale University have recently endeavoured to find an explanation for the fact elicited in the laboratory that pyogenic organisms inhaled into the lungs of a healthy animal, produce no effect unless the epithelium lining the respiratory passages is damaged. Drs. M. C. Winternitz, G. H. Smith and E. S. Robinson have conducted a painstaking research to determine the path followed in artificial infections. They have demonstrated that the epithelium of the trachea, bronchi and bronchioles forms a competent protective mechanism. When an artificial infection is induced by means of a hypodermic needle passed through the skin into the lumen of the trachea, the spread of the infection takes place, not in the interior of the trachea, but along the lymphatic channels in the tracheal submucosa. Again, attempts were made to produce an infection by intratracheal insufflation through a catheter. Notwithstanding the utmost care and gentleness, some damage was inflicted on the tracheal mucosa in almost every attempt. The infection followed on each occasion when an injury was produced on the mucosa, not otherwise. In the next place histological studies were carried out of the lesions in the early and later stages. It was found that when pneumococci were employed as the infecting agent, the Gram-negative organisms were crowded in the lymphatic channels quite soon after the injection or insufflation. The inflammatory reaction that followed, was situated in in the same area and all the appearances pointed to a lymphatic infection, preliminary to the invasion of the lung. In order to gain a clear conception of the further paths along which these pulmonary infections travel from the submucous tissue to the connective

tissue of the lung itself, these workers conceived it to be essential to follow the lymphatic channels through the whole of the respiratory apparatus. It is known that the lymphatics of the lung consist of a pleural system, which extends from the pleura to the hilum of the lung. This system communicates by means of short branches with the deep system. The pleural lymphatics are provided with valves, while the deep lymphatics contain very few valves. Again, it has been shown that there are lymphatics in the submucosa of the cartilage-bearing bronchi, some of which are peri-bronchial and some truly submucous. The bronchi devoid of cartilage have but a small system of lymphatics, while the alveolar walls have none. The submucosa of the trachea contains a very elaborate plexus of lymphatics. The vessels are not provided with valves. At the bifurcation these lymphatics anastomose with a similar system of lymphatics in the submucosa of the bronchi. At this situation the lymphatics are distributed to the glands and give off branches to join up with the peri-arterial and the peri-bronchial lymphatics. At the point where the bronchi divide into its branches and at each subdivision as far as the smallest bronchioles, the anastomosis with a fresh plexus of lymphatics can be traced. It is thus shown that there is a direct lymphatic pathway from the tracheal submucosa to the connective tissue of the smallest bronchioles.

The conception that a pulmonary infection follows the entrance of pathogenic bacteria into the submucous tissue of the trachea or bronchi after the protective epithelium is damaged by some direct injury or indirectly by some temporary circulatory disturbance is more plausible than the theory that the bacteria pass through the mucous membrane without inducing any change. In the former case there would be an explanation for the local infection; in the latter a further assumption would be necessary. Moreover, the doctrine of a temporary lapse on the part of the guarding mucous membrane would fit in with the clinical experience, so difficult to reconcile with the facts of bacteriology, that exposure to cold, and especially to shafts of cold air, disturbances of circulation due to wet clothes and similar external conditions appear to determine an attack of pneumonia. This explanation of infection would also suggest that infection is not always from without. In the case of infection with the tubercle bacillus, it is highly probable that the pulmonary focus is originated in a large proportion of cases by the spread from a former focus elsewhere through the lymphatics of the respiratory apparatus. The distribution of the valves in these lymphatics would admit of a free passage of the infection in either direction. Eventually the bacilli would have an opportunity of reaching the peri-alveolar tissue, where they appear to find mechanical and chemical conditions suitable to their further development.

PULMONARY ŒDEMA AND THE PULMONARY CIRCULATION.

Clinicians have until recently been satisfied to recognize the fact that in the various forms of pneumonia and of pulmonary inflammations, the exudate thrown out into the inter-alveolar tissue and into the alveoli leads to a limitation of the oxygen taken up by the blood and to an embarrassment of the right ventricle in its efforts to drive the blood into the pulmonary artery. Further light has been thrown on the effects of the presence of an exudation into the lung by various toxicological studies. More recently attention to this subject has been attracted by the uses of irritant gases in warfare and still later by the peculiar changes in the pulmonary complications of influenza. Unless the practitioner gains a clear conception of the march of events in pulmonary œdema and in inflammatory affections of the lung, it must remain impossible for him to devise a rational and efficient method of treatment, giving his patients the best chances of recovery. Some highly significant experimental work has been carried out by Mr. Joseph Barcroft, F.R.S., in the Physiological Laboratories of the Royal Engineers' Experimental Ground at Porton. These investigations were undertaken with the object of throwing light on the problems of war gas poisoning. Incidentally, Mr. Barcroft has offered information that will prove of great value in establishing a clear understanding of pulmonary œdema. On October 15, 1919, he delivered a lecture at the Royal Army Medical College on some of the problems of the circulation during gas poisoning.[1] He found by watching the lungs of goats and other animals after exposure to irritant gases, such as phosgene and chlorpicrin, that the immediate effect is a general implication of the whole of the pulmonary tissue. The gas attacks the capillaries, leading to a widespread thrombosis. The circulation stops almost completely. The changes, however, are not equally severe in all parts of the lung. After about four hours, an œdematous fluid is poured out into the connective tissue spaces and some appears in the alveoli. The amount of fluid removed from the vessels may be extremely great. Mr. Barcroft observed a condition that has hitherto not been recorded and that demands an essential modification of our conception of the pathology of pulmonary œdema. Goats poisoned with war gas, with their lungs three or four

[1] *Journal of the Royal Army Medical Corps*, February, 1920.

times their ordinary weight as a result of the œdema, harboured in their arteries blood that was almost fully oxygenated. In the first place, he demonstrates the fact that the blood does not circulate through the more heavily affected areas of lung. After the initial stage has passed, the changes in parts of the lung clear up almost completely, while in other areas the œdema become very intense. He conceives the position to be as follows. The blood passing through the non-œdematous portion of the lung becomes saturated with oxygen in the natural manner. The blood that finds its way through the œdematous portion is black and contains little oxygen. Consequently, the blood in the pulmonary artery will be bright red or dark, according to the proportion of blood that escapes through the œdematous parts. The effect of cutting out an area of pulmonary tissue equal to about half of each lung has to be considered. As long as the person or animal is at complete rest, the reduction of the amount of oxygenated blood passing into the left auricle will not seriously endanger life. Mr. Barcroft constructed a model, representing the pulmonary circulation. By means of this model he found that on clamping one branch of the tube corresponding to the left branch of the pulmonary artery, the pressure in the artery rose very materially, the volume of fluid passing through was diminished by about 20% and the work done by the pump, representing the heart, increased very greatly. By passing a hypodermic needle into the right ventricle of a goat, he was able to study the effect of the œdema produced by gas on the pressure within the ventricle and pulmonary artery. In a few of the animals the systolic pressure rose, but in the majority there was no appreciable rise. Moreover, the volume of blood passing through the ventricle in one minute did not diminish to a great extent. If the circulation through the lungs of a normal animal be blocked mechanically by the injection of starch or oil into the jugular vein, there is a transient effect on the amount of blood passing through the lung, but the animal soon settles down and the conditions become practically normal. A very definite change is noted when the animal exerts itself. Up to a certain limit the vessels dilate to compensate for the blockage elsewhere in the lung capillaries. Exertion may also result in a dilatation of the vessels, but not to a great extent. Mr. Barcroft holds strongly that the compensation is maintained by the vasomotor nervous mechanism of the lung. Moreover, the capillaries in the œdematous portions of the lung also dilate, although the blood passing through them does not come into contact with oxygen in the alveoli. This dilatation, while leading to a proportional diminution of the oxygen in the systemic blood, actually serves to prevent a diminution of the blood passing through the right side of the heart. Consequently, the pressure within the pulmonary artery is not raised, as long as the demand for oxygen of the resting body can be met.

It is still uncertain whether in œdema of the lung or hepatization the capillaries close as a result of vasomotor influences or on account of compression by the exudation. This point is of importance and will have to be investigated. Another matter that is of significance in this connexion, is the mechanism of the impairment of the alveolar wall in irritant or inflammatory affections of the lung. It will be noticed from Mr. Barcroft's work that immediately after gas poisoning the capillaries throughout the lung are involved. There is at this stage evidence of greatly impaired lung ventilation. There is deposited on the surface of the epithelium a thin film of exudate, which effectually prevents the blood from coming into contact with the air. At a later date much of this is removed, but where the œdema increases the air cells are temporarily put out of function. At the same time, some actual thickening of the epithelial wall takes place. By itself this thickening might be insufficient to account for the great darkening of the blood. But when the two factors are acting together, the effect is a complete exclusion of the affected air cells. More information is still needed, but the facts elicited in this investigation reveal the importance of complete rest in all conditions of pulmonary exudation. It is quite obvious that no drugs can influence the condition, save, perhaps, those which can assist the pulmonary capillaries to dilate. The absorption of the exudate is in all cases a process requiring time and a well-maintained pulmonary circulation. In other words, the rational treatment of these conditions, according to the present state of our knowledge, resolves itself into complete rest and careful attention to the heart.

TRADE ERUPTIONS.

Industrial hygiene has hitherto attracted but little attention in Australia. The responsibility for the general condition of the environment of the factory workers and of men and women engaged in industries is accepted by employers and the law prescribes some of these conditions. But there is no special authority whose business it is to study the hygiene of the workshop and of the factory and the particular dangers attaching to individual trades. Since this branch of hygiene has been neglected, it is not surprising that the medical profession in Australia has little interest in the pathogenesis of industrial affections. Among the important effects of certain trades, that of skin lesions occupies a prominent place. Many of these rashes are difficult to distinguish from the eruptions met with in ordinary medical practice. Dr. R. Prosser White[1] deals somewhat generally with trade rashes in an endeavour to awaken a wider interest in them and their recognition. Trade rashes have become more common since the beginning of the war, owing to the large number of persons engaged in the manufacture of munitions. The usual chemical substances which induce these rashes are petroleum, tar, pitch, acids, alkalies, zinc and nickel salts, sulphide of sodium, arsenic, benzine, turpentine, trinitro-toluene, tetryl and numerous aniline and other dyes. Alkalies, lime, chrome, coal tar products and sulphide of sodium are probably the most common of the causes. As a rule, the lesion is a dry one. Its form is determined by the susceptibility of the individual, the temperature and physical condition of the irritant, the length of time it acts on the skin and its chemical composition. Dr. White points out that the history of the eruption

[1] *The Medical Times* (London), March, 1920.

is extremely useful in determining the cause, although this history may mislead the practitioner. It must not be forgotten that a worker, handling an irritant substance, may suffer from any skin affection, like any other individual. It is also necessary to recognize that a trade rash may become pustular as a result of a secondary infection, often due to bad treatment. Trade rashes usually tend to heal when the patient is removed from his work. The parts attacked are usually those with which the irritant substance comes in contact. In some instances a powder may attack the chest, the back and the scalp. The abdomen may be attacked by dust falling inside the shirt and being arrested by the belt. Some drugs penetrate the clothing and induce rashes in unusual parts of the body. A few substances, such as Chinese primrose or Virginian creeper, may cause rashes at a considerable distance from the parts exposed to them. Before the diagnosis of trade rash may be made, it is necessary to exclude other skin affections. Dr. White speaks of the common mistakes in this form of practice. Lime dermatitis is often confused with erythematous or dry eczema, while scabies and a pustular folliculitis due to sulphide of soda are at times confounded. Follicular psoriasis and syphilis are often mistaken for industrial lesions. Medical practitioners, nurses, midwives, glass-blowers and shuttle "kissers" occasionally acquire syphilis in the course of their occupation. The situation of the primary lesion in these instances should lead to a correct diagnosis. In the majority of cases of trade eruption it is unnecessary to remove the worker from his work. Methods have been devised to protect the worker from the baneful effects of irritant substances in the industries. Gloves, protective ointments and powders may be used, but the best means of attacking the problem is to introduce into the process measures calculated to remove the noxious substances from the surface of the worker's body.

Congress Notes.

The date of the Australasian Medical Congress is August 23-28, 1920.

The official address of the Congress is: The Honorary Secretary, 11th Session, Australasian Medical Congress, B.M.A. Building, Adelaide Street, Brisbane.

The following are the Local Secretaries in the several States:—

New South Wales: Dr. F. Brown Craig, Macquarie Street, Sydney.
Victoria: Dr. A. Leo Kenny, Collins Street, Melbourne.
South Australia: Dr. F. S. Hone, North Terrace, Adelaide.
Western Australia: Dr. W. Trethowan, 267 St. George's Terrace, Perth.
Tasmania: Dr. E. Brettingham Moore, Macquarie Street, Hobart.
New Zealand: Dr. C. E. A. Coldicutt, 82 Simonds Street, Auckland.
Queensland: The Honorary General Secretary and the Coadjutor Secretary, c/o. Queensland Branch, British Medical Association, Adelaide Street, Brisbane.

Travelling Concessions.

The following arrangements have been made in regard to railway travelling. Single tickets will be issued at two-thirds of the ordinary fare to members of the Congress in all States except Queensland, provided that not less than six members claim the concession. The wife of a member accompanying her husband may obtain the same concession, but wives cannot be included to make up the minimum number. The concession is offered by the Commonwealth railways as well as the State railways.

In Queensland a return ticket will be issued for a single fare to members of the Congress.

No concessions could be obtained while the shipping companies were under the Shipping Comptroller. The control has now been removed and a further attempt is being made by the Executive to obtain concessions.

Accommodation.

The Executive Committee has made arrangements with the Queensland Club for the accommodation of a large number of male medical practitioners attending the Congress. Greater difficulty is being experienced at present concerning the accommodation of members who will be accompanied by their wives. The hotel proprietors are disinclined to book orders at present, although it has been pointed out to them that the visit of His Royal Highness the Prince of Wales will have terminated before the beginning of the Congress and that the Brisbane Show will be over by that date. It is anticipated that within a few weeks definite arrangements will be completed with the hotel proprietors. Members who have not received information from the Executive to the effect that the accommodation they require will be provided, will understand that the delay is due to the facts set out above.

General Arrangements.

The management of the Queensland Club has generously arranged that every member of Congress from outside the State may become an honorary member of the Club for the week.

The University buildings have been handed over in their entirety to the Congress for its meetings.

A cable has been received from Rochester, the United States of America, dated May 12, 1920, as follows:—

Regret unable attend your Congress.
(Signed) MAYOS.

Special exhibits and demonstrations by the Director of the Commonwealth Serum Laboratory and by the Director of the Australian Hookworm Campaign are being prepared.

Members intending to read papers at the Congress are informed that good projection apparatus will be available at the University for the purpose of illustrating the papers.

Section of Medicine.

The Honorary Secretary of the Medical Section, Dr. A. Stewart, announces that the following subjects have been selected for special discussion in the Section:—

(*i.*) Influence of localized sepsis in relation to constitutional diseases;
(*ii.*) Serum treatment of acute illness (anti-pneumococcic serum in pneumonia, etc.);
(*iii.*) Thyro-toxic types of disease.

The Honorary Secretary invites members who are willing to read papers on these subjects or who propose to take part in the discussions, to communicate with him as soon as possible. Letters should be addressed to him, care of the Congress Secretary (see above).

It has been announced in the *Queensland Government Gazette* that Dr. J. I. Moore, Commissioner of Public Health, has been appointed the Government representative at the Congress.

THE AUSTRALIAN INSTITUTE OF TROPICAL MEDICINE.

The Committee of the Australian Institute of Tropical Medicine met on May 13, 1920, to consider the future of the Institute. A letter was dealt with from Dr. A. Breinl, the Director of the Institute, in which he notified the Committee that he wished to be relieved of his duties. Dr. Breinl has been the Director since the foundation of the institution. The resignation will take effect from October, 1919. The position will be declared vacant within a short time and the staff of the Institute will be extended. It is proposed to open experimental stations at Port Moresby and Rabaul.

Abstracts from Current Medical Literature.

SURGERY.

(179) Bone, Joint and Nerve Injuries.

Robert Jones (*Surg., Gynec. and Obstet.*, January, 1920) reviewing the subject of bone, joint and nerve injuries, considers that there is probably no interval between injury and operation precluding possible recovery from nerve injuries. The condition of the muscles, tendons and joints is the main thing. End-to-end anastomosis can be obtained very often by flexion, or adduction of the limb, or by transposition of the nerve. If this fails the two separated nerve bulbs are brought as close together as possible by silk, the wound closed and traction applied to the limb for some weeks, when, at a second operation, approximation will be possible. Nerve grafting or the turning down of a flap is useless. In irreparable damage to the musculo-spiral nerve tendon transplantation properly performed is a great success. The author now makes more frequent use of the *pronator radii teres*. Where sciatic injury is irreparable the foot may be slung in good position by transplanting the *tibialis anticus* and *peroneus longus* and uniting them through a tunnel in the tibia. In fracture of the femur the safety-ice tongs and calliper splint give perfect results in experienced hands. But the Thomas's splint in the ordinary extension is nearly as effective; it still remains the best transportation splint. Angulation may occur several months after apparent union and against this the calliper splint is the best protection. Loss of substance is the most common cause of non-union in the femur and humerus. Esquillectomy accounts for many of these gaps. In the femur non-union should be treated by the calliper splint, with rubber tubes fixed above and below the fracture and the patient should be allowed to walk about. Bone grafting fails except where there is a second bone to act as a splint, *e.g.*, in the forearm. In passive movement, if pain or a diminished range of movement follows manipulation, rest is indicated. "Pump-handle" movements are harmful.

(180) Plastic Surgery for Facial Burns.

H. D. Gillies (*Surg., Gynec. and Obstet.*, February, 1920) describes his methods of treating severe facial burns. The character and the extent of burn disfigurement vary directly with the direction of intensity and duration of the heat applied. All varieties of flame burns show deformity of the eyelids and there is more or less cicatricial ectropion. The eyelid skin closed tightly to protect the eyes is the most vulnerable part of the face. The treatment in the intermediate stage is directed towards diminishing fibrosis in preparation for the plastic stage. The best time for this is when the scar has ceased contracting. The general plan of reconstruction must then be arranged, the first essential being an accurate determination of the tissue lost. The forehead is replaced by a Wolfe graft. Eye brows are grafted by taking a strip of scalp from the mastoid region, deep enough to include the hair follicles. Movable eyelids are provided by the author's "epithelial outlay" operation. The nose is renovated by a Wolfe graft, the upper lip by a whole-depth, hair-bearing graft from the scalp region. Cheek, chin and lower lip are reformed by transferring in stages a flap from the neck and chest. The ear is replaced by two layers of skin enclosing shaped cartilage. The Wolfe graft gives great promise of usefulness, especially in the forehead and nose. It should be a "tailor's fit," the tension of the graft being equal to that of the removed area. The allowing for contraction is an obsolete proposition.

(181) Two-Stage Operation of Partial Colectomy.

C. M. Dowd (*Annals. of Surg.*, February, 1920) delivers judgement on the two-stage operation of gut resection which von Mikulicz practised. Its great advantage is its low mortality. The one-stage operation is, however, more suited to small bowel resections, because the contents are fluid and not very septic, while the peritoneal coat closely adheres to the muscular wall of the bowel and this makes for a good defence against infection. Cancer is rare in the small intestine, hence the patients are not frequently cachectic, while intestinal leakage will cause much irritation and perhaps great inanition. The same arguments hold good for the ileo-caecal region, but in the colon from the hepatic flexure to the sigmoid, a region which furnishes 70% of the cancers above the rectum, the two-stage operation is to be preferred. The intestinal contents in this segment are semi-solid and full of bacteria; partial obstruction is common and a septic bowel content is a menace to healing. The peritoneal coat is frequently defective, the patients debilitated and skin irritation is less to be feared. Von Mikulicz at Breslau reduced his mortality from 42% to 12.5% by this operation. Mayo, adopting it in a large proportion of the cases in which he resected the left half of the colon, had a mortality of 17%. The obvious disadvantages are an unpleasant convalescence, delayed healing and the probability of hernia.

(182) Technique of Cholecystectomy.

H. M. Richter in dealing with the operation of cholecystectomy (*Surg., Gynec. and Obstet.*, November, 1919) recommends splitting the peritoneum where it is reflected from the liver to the gall bladder, inserting the finger and peeling the gall bladder from its bed. This method is especially valuable in tense gall bladders, for the cystic duct is mobilized and made accessible and aspiration can be avoided. It is quite unnecessary to ligature the cystic duct close to the common duct, but a careless ligature of the apex of the gall bladder must be carefully avoided. The flaps of the peritoneum should be allowed to fall into place like a Thiersch graft and should not be sutured over the raw surface. The omentum should be dropped in between the liver and the duodenum to lessen the risk of adhesions. The ligatured stump is crushed, tied with medium-sized catgut and left free in the peritoneal cavity. The peritoneum is well able to take care of it. The abdomen should be closed without drainage. In operations on the duct, provided there is no obstructive lesion, it is illogical to drain the common duct or leave a tube in it.

(183) Spontaneous Rupture of Œsophagus.

A case of spontaneous rupture of the œsophagus is reported by L. Sheldon, jun. (*U.S.A. Naval Med. Bull.*, July, 1919). This condition, according to Osler, is rare; there are only eight cases in the literature. A man (age not stated) reported sick with constipation while at sea. He showed signs of collapse and examination revealed moist râles over the whole of the left side of the chest, with increased resonance. The abdomen was slightly rigid over the left upper quadrant. An enema gave no result. Next morning, while straining at stool, he collapsed and died in a few minutes—nine and a half hours after first reporting sick. The autopsy revealed distended intestines, which appeared to have been obstructed, but no definite lesion was discovered. The left pleural cavity contained fluid with a fæcal odour and the left lung was collapsed. A clean-cut rupture of œsophagus, just above the diaphragm, was present. The œsophagus elsewhere was normal and there was no evidence of ulcer or of scar.

(184) The Pulse Pressure in Brain Compression.

The importance of the pulse pressure in head injuries is insisted on by H. M. Armitage (*Pennsylv. Med. Journ.*, November, 1919). The normal relation of pulse pressure to diastolic pressure, to systolic pressure is given as 1:2:3. In cerebral injury this relationship is distorted. The pulse pressure at some stage in compression is high and frequently higher than the diastolic. The case types in which the pulse pressure is not high are (*i.*) those in which, with depressed fracture or blood clot pressure, there are no medullary symptoms; (*ii.*) those in the last stages, where compensation by the arterial tension fails (Kocher's fourth stage of compression); and (*iii.*) cases of basal fracture with wide-spread hæmorrhage. The systolic pressure itself is too uncertain to be of any value whatever, but the pulse pressure with certain reservation may be of considerable diagnostic assistance.

(185) Ranula.

A case of ranula is recorded by P. G. Skillern (junior) (*Surg., Gynec. and Obstet.*, November, 1919), which recurred five months after excision of the submaxillary and sublingual glands. Skillern considers it a true case of

hydrops of the sublingual bursa—a mucous bursa described as being situated on the genio-glossus muscle close to the frenum, extending as far as the second molar tooth and lined by a distinct epithelium. The contents of some ranulæ were found to resemble the contents of some mucous bursæ. The salivary ducts may or may not be involved secondarily. The fluid of ranulæ has been demonstrated to have no similarity of composition to saliva.

GYNÆCOLOGY AND OBSTETRICS.

(186) The Treatment of Toxæmias of Early Pregnancy.

P. Titus, G. L. Hoffmann and M. H. Givens (*Journ. Amer. Med. Assoc.*, March 20, 1920) report on 76 cases of vomiting of early pregnancy. The development of a course of treatment, the success of which seemed to depend on the use of carbohydrates in large amounts, led to the assumption that a deficiency in carbohydrates has an important bearing on the toxæmia of pregnancy. Carbohydrate deficiency during pregnancy is of twofold origin: (1) a relative deficiency due to an unexpected demand for glycogen on the part of the fœtus and uterus and (2) an actual deficiency, augmented in the presence of nausea and vomiting, from lessened carbohydrate intake. Carbohydrate deficiency in the maternal organisms causes a glycogen depletion of the liver, because this is the organ in which carbohydrates are stored for use when needed. Pathological changes in the liver lobules which are similar to those of fatal toxæmias of pregnancy, can be produced experimentally by the use of certain chemical poisons. These changes can be made to disappear rapidly by the injection of carbohydrates. Mild cases of nausea and vomiting are controlled by giving a diet rich in carbohydrates and by giving food frequently. In addition from 0.25 to 0.5 litre of 10% glucose and 2% sodium bicarbonate solution is given daily by mouth. This is given in doses of 30 to 60 c.cm.. In more severe cases after an initial period of rest, gastric lavage and the introduction of saline cathartics through the stomach tube, small amounts of liquid food are allowed alternately with 30 to 60 c.cm. of the glucose and soda solution every two hours. The same solution is administered *per rectum*, so that the patient gets over a litre of the solution daily. In the seriously toxic patients, in addition from 15 to 25 grm. of glucose in from 250 to 500 c.cm. of water are given intravenously three or four times daily.

(187) Practical Considerations on Acquired Retrodisplacements of the Uterus.

J. O. Polak (*New York Med. Journ.*, January 17, 1920) states that one woman in every five has a backward displacement of the uterus and that retroversion may be congenital, but retroflexion is always acquired. Retroversion often dates its origin from a curettage, the practitioner neglecting to replace the uterus in an anteverted position after it has been displaced by the tenaculum and curette. The most common cause is the relaxed condition of the uterine supports following childbirth. Under preventive treatment the main point is to avoid injury to the pelvic structures. Hurry makes tears, whether labour is hurried by the use of bags, the hand, forceps or pituitary extract. After labour uterine and vaginal drainage is promoted by the Fowler position and by turning the patient on to her abdomen three or four times a day. On about the sixth day *post-partum* bed exercises are commenced. These consist in raising the head and shoulders and the legs in order to exercise the abdominal muscles. From the seventh day onward the patient assumes the knee-chest position at least three times daily for twenty minutes. After leaving bed she is taught how to use the "monkey trot" on walking on all fours. "Monkey trotting" is insisted on throughout the puerperium. The patient returns at the end of four weeks and a careful pelvic examination is made. If the uterus is retroverted and there are no signs of inflammation anywhere in the pelvis, the uterus is replaced and the vagina packed with tampons inserted below and in front of the cervix with the patient in the knee-chest position. In two or three days she returns and a suitable pessary is inserted.

(188) Pelvimetry and Cephalometry Among Philippine Women and New-Born Babies.

Honoria Acosta-Sison and Fernando Calderon (*Philippine Journ. of Science*, March, 1919) have studied the pelvis of 1,237 Philippine women. They have determined the available space in the posterior triangle of the pelvic outlet and studied its importance in effective delivery in cases where there is shortening of the intertuberal diameter. Moreover, the size of the full-term, new-born child's head, the length of labour, the length of the second stage and the influence of the weight of the baby and its position on the final outcome of parturition have also been observed. For those who have small hands and short fingers, they suggest the introduction of the whole hand into the vagina and the measurement of the diagonal conjugate by means of an ordinary uterine sound bent so as to correspond to the curve of the pelvic canal. They find that the average figures for the various diameters correspond most closely to those of the average generally contracted pelvis among white Americans and they suggest that this type of pelvis may be due to the Southern European element in the composite American population. Diagonal conjugate diameters between 11 and 12.4 cm. were found in 85% of the women and they gave the greatest percentage of spontaneous labour. In cases of contracted intertuberal diameter they found that where the index of the posterior plane of the pelvic outlet was normal, labour was not delayed. The normal index for Philippine women is much smaller than what Daniels considers normal for American women, as it is 46.8 in place of 55. They found that the average duration of labour in the left occipito-anterior position is shorter than that given in most American text-books. Contracted pelvis as an indication for Cæsarean section is rare amongst the Philippine women.

(189) The Eye in Pregnancy.

L. C. Peter (*New York Med. Journ.*, January 24, 1920) calls attention to the fact that disastrous results may follow neglect to examine the eyes in the toxæmias of pregnancy. He states that the eye symptoms and signs should be utilized to measure the extent of damage done to the system and to guide the future handling of the case. In the chronic variety of nephritis of pregnancy, which is an exacerbation of a pre-existing chronic interstitial nephritis, the eye evidence of an old trouble is unmistakable. Hæmorrhage, retinal œdema or detachment and white stellate areas in the macula are indications for the prompt termination of pregnancy at any stage. With diffuse retinal œdema, massive hæmorrhages, neuro-retinitis and swelling of the disc indicating acute toxæmia, even emptying the uterus may fail to save life. The second type of nephritis of pregnancy, which is a toxæmia *de novo* superinduced by pregnancy, is less serious in its consequences and it admits of broader and more conservative methods of treatment. The eye symptoms are not always so pronounced. In the early stages only slight œdema of the retina may be seen. In such cases the treatment is determined by (*i.*) the urinary secretions, (*ii.*) the blood pressure and (*iii.*) the eye ground phenomena. Not infrequently uræmic blindness may suddenly be precipitated without any demonstrable eye ground changes. In these cases labour should be promptly terminated. Eye ground studies should therefore be part of a routine study in pregnancy, especially when the analysis of the urine and the blood pressure reveal an abnormality of nephritic function.

(190) Rapid Expulsion of the Placenta.

G. Sklavounos (*Surg., Gynec. and Obstet.*, February, 1920) describes a method of injecting sterilized, hot hypertonic salt solution into the placenta, in order to induce rapid separation; and states that it has given good results. The necessary impliments are: (1) a glass syringe, (2) a cannula with a groove near the tip to prevent slipping of the cord when attached to the cannula, (3) a pair of scissors and a clamp, (4) about 2 metres of rubber tubing. The instruments are sterilized and 15 to 20 grms. of salt are added to 1,500 c.cm. of sterilized hot water (temperature 50° to 60° C.). The syringe is elevated 2 metres above the patient and the cannula tied into the umbilical vein. The solution is then run in and when the placenta is fully injected, the umbilical arteries swell. Separation commences as soon as 200 c.cm. of solution is injected and the placenta is rapidly expelled. The method has been used in 60 cases.

British Medical Association News.

SCIENTIFIC.

A meeting of the New South Wales Branch was held at the Chamber of Commerce, Newcastle, New South Wales, on April 30, 1920, Dr. C. Bickerton Blackburn, O.B.E., the President, in the chair.

Dr. W. J. R. Nickson welcomed the members in the name of the Newcastle practitioners. He stated that on a former occasion the Branch had met in Newcastle and the metropolitan members had provided the scientific material. The Newcastle men were reciprocating and were providing papers for discussion. He held that these meetings were what they needed. They brought the medical profession together.

Dr. W. F. Litchfield thanked Dr. Nickson and his colleagues for their warm welcome. He referred in terms of appreciation to the manner in which they were being entertained. He pleaded guilty in regard to the arrangements for the meeting. Judging from the number of those present, he claimed, however, that the arrangements he had made, had received the approval of both the Newcastle and the Sydney members. They wanted the members in all parts of the State of New South Wales to realize that they were part and parcel of the great British Medical Association and part of the New South Wales Branch. He was further anxious to strengthen the Branches of the British Medical Association outside the United Kingdom.

Dr. Robert Dick read notes and demonstrated the method of selecting suitable donors for blood transfusion (see page 486).

Dr. L. W. Bickle asked Dr. Dick what constituted the various groups for blood transfusion.

Dr. J. Adam Dick, C.M.G., stated that before this method of grouping had been introduced, serious symptoms and even death had taken place as a result of transfusion. Since grouping had been adopted in practice and only correct transfusions carried out, the results had been good. He emphasized the importance of having at every hospital a donor of known grouping. The operation had often to be carried out very quickly and it was necessary to have a donor ready. It was also essential that there should be someone who was expert at blood transfusion. Dr. Dick added his thanks to the Newcastle members for having provided the Branch with such an interesting programme.

Dr. H. S. Stacy held that blood transfusion had a great future in store. It would save lives which would otherwise be lost. Every surgeon had lost patients who could have been saved, had blood transfusion been carried out in a proper manner. The preparation of wax receivers occupied much time and demanded considerable practice. Dr. Stacy considered that Newcastle was lucky in having Dr. Dick among its practitioners.

Dr. T. W. Lipscomb thanked the Newcastle members for a very pleasant and instructive evening. He considered that Dr. Dick's demonstration was excellent and his explanation more excellent still.

Dr. F. Guy Griffiths stated that Dr. Dick's demonstration had revealed how very simple it was to determine the group to which the donor belonged. He thought that supplies of serum should be available for all surgeons. Dr. Dick had stated that transfusion was quite safe if the blood injected was derived from a person of the same grouping as the recipient. It might be necessary to test the blood of half a dozen volunteers and it would require luck to find a suitable donor from a small group of willing people. He hoped that Dr. Dick would read another paper at a future meeting of the Branch and that he would have the paper published in *The Medical Journal of Australia*. He was sure that the paper would be read with interest by all.

Dr. C. Bickerton Blackburn, O.B.E., thought that Dr. Dick's ready method of discovering suitable blood for transfusion was excellent.

In his reply Dr. Dick stated that the blood of individuals of the human race could be divided into four groups. Group II. and Group IV. constituted the majority and represented approximately 82% of the population. It had been discovered that the blood of a person belonging to Group IV. could be added to the blood of a person belonging to any of the other groups without agglutination or hæmolysis occurring. Group IV. persons were therefore called universal donors. If it were proposed to carry out transfusion of blood, the first thing to be done was to classify the volunteers of the staff of a hospital according to the four groups. He held that blood transfusion was an important and useful method and should be resorted to in Australia. He was sure that the results would be better and, in certain cases, the mortality would be reduced. In the case of children the mother's blood could be used with safety without any previous testing. He thought that the methods of transfusing blood should be taught at the medical schools and that standard sera should be obtainable everywhere.

Dr. Idris Morgan presented a review of four cases of syphilis of the central nervous system (see page 477).

Dr. J. Adam Dick, C.M.G., expressed the opinion that Dr. Morgan's paper was a splendid one and that his four cases were very remarkable.

Dr. Hugh G. Allen read some notes on cerebral syphilis (see page 481). He stated that at the National Hospital for the Paralysed and Epileptic, Queen's Square, London, the treatment of *tabes dorsalis* and general paralysis of the insane was a full course of iodide of potash and mercury and a course of arseno-benzol. Good results were often obtained, particularly in cases with gastric crises and lightening pains.

Dr. Norman J. Dunlop read a paper entitled "Surgery as it was Practised Thirty Years Ago" (see page 482).

Dr. H. S. Stacy said that he could not go back quite as far as Dr. Dunlop in his excellent paper. He referred to the question of appendicitis and the necessity for early operation. Some surgeons had operated on patients and found that they were not suffering from appendicitis. Everyone made mistakes at times. Once appendicitis was diagnosed, the operation should be performed.

Dr. Hugh G. Allen said that it was very pleasant to hear one of the visiting members state that he had come to Newcastle to learn from the local practitioners. Dr. Dunlop had remarked before he commenced his paper that "after the Lord Mayor's carriage comes the donkey cart." He (Dr. Allen, thought that it was like the wine at the feast—the best was kept to the very last. Some years ago when he was a resident medical officer at Sydney Hospital he became ill and the diagnosis of appendicitis was made. They operated upon him. Two years later he had another attack and he passed a small renal calculus. The differential diagnosis in the second attack was easy, because the appendix was absent. In the first attack, however, the differentiation was not so easy.

Dr. T. W. Lipscomb was surprised that Dr. Dunlop should have said in reference to the urgency of operations after the diagnosis of "acute abdomen" that the operation should be performed as soon as the patient was brought in. He would have thought that it would have been preferable and more conducive to beneficial results if the patient were put to bed first, if he were kept warm with hot bottles and if morphine were administered.

Dr. F. Guy Griffiths stated that he had been a medical student for 26 years. He agreed that the conditions of medical practice in the early nineties were as Dr. Dunlop had described them. He called attention in connexion with the names of the medical men mentioned by Dr. Dunlop, to the fact that one of them, Dr. Beeston, was present at that meeting.

Dr. Harvey Sutton, O.B.E., said that he wished to support Dr. Dunlop in his desire that more attention should be paid to the teaching of medical history to students. It would broaden their views. He suggested that Dr. Dunlop should write a history of his association with and recollections of the old-time practitioners of Newcastle.

In his reply Dr. Dunlop said that the flattering remarks of his colleagues were very pleasant to hear, but at the same time they brought to his mind the story of an old Scotch minister. This worthy gentleman had asked one of his flock whether he had enjoyed the sermon on the previous Sabbath. "Not much," was the reply. "In the first place, you read it; in the second place, you read it badly; and in the third place, it wasn't worth reading."

The Newcastle members entertained their Sydney colleagues in a very hospitable fashion. Each of the visitors was received as a personal guest in the house of one of the

local practitioners. The members of the Central Northern Medical Association entertained the members at dinner on the evening of April 30. On the following day a most enjoyable excursion to Port Stephens, including a launch picnic, was provided for a large number of the visitors. The members were indebted to Mr. Longworth, of Port Stephens, who placed his motor launch at their disposal and extended cordial hospitality.

We learn from the daily press of Tasmania that the Medical Council has delayed its deliberation concerning the validity of the diploma of Victor Richard Ratten, pending the arrival of fresh information from America. Another meeting of the Council will be held shortly, at which it will be determined whether a *prima facie* case has been made out for submission to the Supreme Court.

BILHARZIOSIS.

The Director of Quarantine has supplied us with the following information concerning the measures adopted by the Service to cope with bilharziosis in returned soldiers.

In connexion with the control of bilharziosis in Australia, arrangements were completed a short time ago by the Departments of Defence and Repatriation to hand over to the Quarantine Service the responsibility for formulating and putting into operation measures necessary for dealing with this disease amongst ex-soldiers. The measures decided upon have now been put into active operation.

Action was first taken in Victoria, where, with the co-operation of the Departments of Defence and Repatriation, arrangements were made for the re-examination of all men who had returned to the State from active service with a history of this disease and for treatment by means of intravenous injections of tartar emetic in all cases where the examination showed that infection still persisted.

Arrangements were also made by the Repatriation Department for the payment of living allowance to married men and to soldiers with dependants during the period occupied by the course of treatment in hospital. To unmarried men without dependants, full pension has been granted for the same period. In the case of men living in the country, railway fares and travelling expenses are also paid to enable these men to come to Melbourne for treatment. These concessions were granted in order to enable men temporarily to give up their employment in order to undergo the necessary hospital treatment.

Particulars of men who had returned from active service with a history of bilharziosis, were obtained and these men were traced and communicated with and the position explained to them. Very little difficulty was met with in inducing them to submit to re-examination and to undergo treatment.

Examination and treatment are carried out at No. 11 Australian General Hospital, where a ward is set aside for the accommodation of these patients and the examination and treatment placed in the hands of an expert medical officer. The records obtainable showed that 45 men returned to Victoria from active service with bilharziosis. Of these, 25 have already been brought under treatment; others will be coming under treatment within the next week or two and the remainder are now being traced and will be treated in due course.

The results of examination indicate that almost all of the men who contracted the disease, are still infective, although several years have elapsed since the onset of the disease. Of the first twenty men examined, seventeen were found to be passing living ova in the urine, in the fæces or in both; in some cases the excreta were loaded with ova.

The results of treatment by intravenous injections of tartar emetic are very promising. It is hoped that by means of a thorough course of treatment with this drug, the disease may be permanently cured in each case and that in this way the problem of preventing the spread of infection will be solved.

Arrangements have been made for periodical re-examination of men who have undergone the course of treatment, in order to ascertain whether permanent cure has been secured.

Action with regard to the treatment of this disease has so far been confined to Victoria. The results have been so promising as to warrant the extension of operations to all the other States. Steps have been taken to commence operations in New South Wales and Queensland and later in the remaining States of the Commonwealth.

The Department of Repatriation has agreed to extend the same facilities to the other States, in regard to living allowances, pensions and railway concessions, as have already been granted in Victoria.

The co-operation of the State Departments of Public Health is also being given; these Departments will be kept fully in touch with the steps taken in regard to the treatment of ex-soldiers in each State and will be supplied with all particulars of these cases, including present addresses, so that any local action considered necessary to guard against spread of the infection, may be taken.

It is with great regret that we have to record the death of Dr. Robert Beveridge Huxtable, of Charters Towers, Queensland. Dr. Huxtable died on May 10, 1920, after undergoing an operation at a private hospital in Sydney.

THE HEALTH OF HOBART.

Dr. Gregory Sprott, the Medical Officer of Health of Hobart, has issued his report for the year 1919.

The area over which Dr. Sprott has control, contains an estimated population of 32,496. During the year 1919 there were 1,182 births, which is equivalent to a birth-rate of 36.47 per 1,000 of population. This rate is lower than that of the last seven years. The highest rate was in 1912, namely, 38.78 per 1,000. The total number of deaths registered was 474. The death-rate was therefore 14.58 per 1,000 of population. In 1913 it was 15.55‰. Since that year it has decreased and in 1917 and in 1918 it reached the level of 11.8 and 11.77. The number of deaths of children under one year of age was 75, which gives an infantile mortality of 65.7 per 1,000 births. In 1917 and 1918 the rate was lower, but it was considerably higher in all other years since 1908. Of the 474 deaths, 142 were of persons of 65 years or over.

Early notification of births is in force in Tasmania. During the year 1,290 births were notified to the Medical Officer of Health, including 336 of infants whose mothers reside outside the boundaries of greater Hobart. In 616 instances the mothers were attended by medical practitioners and 673 by registered midwives. Dr. Sprott points out that 738 babies were born in hospitals or maternity homes and 657 in private houses.

Enteric fever was less prevalent than in 1918. There were 17 cases notified with two deaths, as compared with 29 cases in the previous year. No information is given concerning the source of infection or the methods employed to remove it.

There were 67 cases of diphtheria reported. The patients in 66 instances were admitted to the Infectious Diseases Hospital. No deaths occurred. In 1915 and 1916 the number of cases was considerably higher, namely 152 and 163 respectively. In 1917 the figure fell to 109 and 1918 to 65.

Only six cases of scarlet fever were notified during the year. There were four cases of *ophthalmia neonatorum* and three of puerperal septicæmia.

The total number of cases of pulmonary tuberculosis notified was 56. At the time of the issue of the report, information had been received concerning 144 patients suffering from tuberculosis within the city. These patients were regularly visited by the Lady Inspector, whose duties include the giving of advice concerning the means of preventing the spread of infection. Dr. Sprott points out that a consumptive home is badly needed and demands that this home should be situated in the centre of the area which it is intended to serve.

During the month of August, 1919, the health authorities intimated the occurrence of the first case of epidemic influenza. The patient was immediately isolated in the Claremont Hospital. The Elizabeth Street State School was converted into a hospital, the Red Cross Society generously supplying the furniture. The City Council was responsible for the medical and nursing staff. From August until the end of October, when the Hospital was closed, the total number of patients admitted was 199. The number of deaths

within the institution was 25. In addition, there were 64 deaths outside the Hospital. Dr. Sprott states that it was quite impossible to obtain a report of the number of persons who suffered from the disease. He holds that the relatively small number of deaths was due in part to the mildness of the disease and in part to the efforts of the local authority working in conjunction with the Red Cross Society and the Public Health Department.

During the course of the year 110 applications were received for licences to keep cowsheds and dairies. One of these applications was refused and the remainder were granted. Of 69 samples of milk subjected to analysis, six were found to be adulterated. Prosecutions were undertaken and a conviction was obtained in four instances. The amount of meat, eggs cream and poultry seized and destroyed because it was unfit for human consumption, weighed one and three quarter tons.

At the city meat depôt a large number of carcases was inspected. Four carcases of lamb, ten of mutton, ten of pork, two of beef and one of veal were condemned and destroyed. Dr. Sprott finds that the method of carrying meat from the abattoirs to the city remains unsatisfactory. This matter was dealt with in a special report to the Health Committee, which contains the following recommendations:—

(*i.*) Properly constructed standard meat vans, well ventilated and dust and fly proof should be used;

(*ii.*) All men handling meat should be properly clothed with clean, washable overalls, etc.;

(*iii.*) The by-laws and regulations should be amended, to give effect to these requirements.

Certain recommendations were also put forward for the purpose of combating the fly nuisance. These include the removal of stables and cow-sheds from the area of the city, the proper treatment of manure pits, garbage and refuse, the better management of privies and the fly-proofing of all hospitals. Dr. Sprott indicates the methods by which the public can contribute in this campaign. The Public Health Department has issued a leaflet dealing with the subject. Dr. Sprott states that lectures should be given in schools and that the cinema films should be utilized for the purpose of informing the public concerning the habits and dangers of the house fly.

The majority of the hotels and public houses were found to be satisfactory. Their number has been reduced within the last few years and the sanitary arrangements of the remaining licensed premises and of the "soft drink" bars are being rigorously controlled. He devotes a short paragraph to the actions taken to improve the hygienic conditions of factories.

As a result of the inspection of houses, 23 were demolished and two others were condemned as unfit to live in. In a special report Dr. Sprott pointed out that between 5% and 10% of the people were housed under conditions which implied risk to health and that 5% were housed under conditions which were positively dangerous. Hobart contains no slum areas of considerable size. There are, however, many delapidated houses in insanitary surroundings with insufficient ground and air-space. Dr. Sprott claims that a considerable amount of money will have to be expended to rectify the defects. Land will have to be resumed and much care should be exercised in the selection of building sites. The erection of a garden suburb has been suggested as a remedy for the acute shortage of dwelling houses. Dr. Sprott points out that admirable as this scheme may be, it does not provide for the needs of the people who would be rendered homeless by the demolition of the delapidated, insanitary habitations referred to. Moreover, the building of a garden suburb does not necessitate the destruction of the buildings in the insanitary areas. Dr. Sprott recognizes that at the present cost of land and buildings, private individuals are unlikely to undertake the erection of small, healthy homes at low rental, in the place of the condemned tenements. He considers that 250 houses would be required and that a capital sum of £150,000 would be necessary. The majority of the tenants would not be able to pay more than 7s. to 10s. per week. This would provide about 50% of the interest on the capital sum. He therefore considers that the State and the local authorities should provide the capital and regard the loss as expenditure on improved health conditions.

The Council has at last taken steps to institute a refuse destructor. This will replace the tips which, apart from being a nuisance, are the harbouring grounds for rats. The rat problem is, apparently, a serious one in Hobart. Dr. Sprott considers it necessary for a rat-catcher to be employed.

The remainder of the report deals with noxious trades, grave-yards and open spaces, the institution of sanitary conveniences, inspections and staff.

We regret to announce the death of Dr. James Vivian Church, which took place on May 9, 1920, at Rockhampton, Queensland.

We learn with regret that Dr. A. A. Brown, of Greenvale Sanatorium, Victoria, has met with a serious accident. While driving in his motor-car, the vehicle skidded and overturned. Dr. Brown was pinned underneath the car and when liberated was found to be suffering from fractures of ribs and injury of the clavicle.

Obituary.

STANISLAUS EMIL ANTONY ZICHY-WOINARSKI.

It was with great regret that we recently announced the death of Dr. S. E. A. Zichy-Woinarski.

Stanislaus Emil Antony Zichy-Woinarski was born in Richmond, Victoria, on April 25, 1857. He was the son of George Gustave Zichy-Woinarski, Aide-de-Camp of Prince Michêlau Woroneteki and Captain in the Polish Legion of Honour in the revolution of 1848.

After an early education at the Church of England Grammar School, Melbourne, he proceeded to the Melbourne University in 1875 and graduated in medicine and surgery in 1879. His University career was one of distinction; in his first year he secured the exhibition and first-class honours in chemistry and he completed his course with second-class final honours.

He then entered upon a year as resident surgeon at the Melbourne Hospital and in that capacity worked under the late Sir Thomas Fitzgerald and the late Mr. E. M. James. In the year 1881 he undertook a further period of resident hospital duty at the Clunes Hospital, Victoria. In the following year he commenced practice at Ballaarat, in which city he continued in practice until about the year 1912.

A desire for post-graduate study carried S. E. A. Zichy-Woinarski to England in 1891. In the following year he was admitted to membership of the Royal College of Surgeons, England, and to the fellowship of the Royal College of Surgeons, Ireland.

His special study and aptitude in his profession work was in surgery. He faithfully served the Ballaarat Hospital as honorary surgeon for a period of ten years. Indifferent health compelled him to retire from general work in Ballaarat, to "Wolfdeen," Mornington, and to restrict himself to consulting work in Melbourne. In 1918 he took up practice in Omeo, Victoria, but his work here was terminated by an attack of pneumonia. He returned to "Wolfdeen" and after recovery and rest journeyed to Woods' Point, where he had been only six weeks when his death occurred.

S. E. A. Zichy-Woinarski was a man of versatile accomplishments, an excellent pianist, a good linguist, a brilliant conversationalist and a great *raconteur*. He had a keen and cultivated appreciation of art and was himself an excellent painter.

In his student days he was an enthusiast in rowing; he was prominent in the Medical School athletic sports of his period and was no mean opponent as a boxer.

Stanislaus Woinarski was not privileged to serve in the medical services of the Australian Imperial Force, being debarred on the score of age from securing an appointment. His death, a great loss to his relatives and a wide circle of friends and to the medical profession, occurred on April 5, 1920. Four daughters and one son survive him; the second eldest daughter achieved very distinguished war service, having been thrice mentioned in dispatches. She was one of the first quota of nurses to go out and has been decorated with the Royal Red Cross.

ERNEST JAMES SCHULDHAM SPARK.

By the death of Ernest James Schuldham Spark, at the still useful age of 53, the medical profession loses a practitioner of the best type. He was the son of a medical man, one of the first who practised a specialty, namely, that of diseases of the ear, nose and throat, in New South Wales.

Ernest Spark was born in 1867. After leaving school he did some work in the Lands Office in Sydney and later in a bank, but he found the outlook very hopeless. At about the age of 24 he entered the Medical School of the University of Sydney and after a creditable course as undergraduate, he took his degrees in 1898. He spent the next two years as resident medical officer at the Hobart General Hospital and there laid that foundation of practical professional knowledge which made him in after years an unusually capable and well-balanced practitioner. From Hobart he migrated to Stockton in New South Wales. He practised for a time in that town, but at a later date he went to South Brisbane, where he remained for the rest of his life. In Queensland he made many friends, for Ernest James Schuldham Spark was a man of clear honesty and fair dealing in all his ways. He gained the confidence of his colleagues and the trust of a large circle of patients. He was a firm supporter of the British Medical Association and for two years, from 1917, he served as Honorary Treasurer of the Queensland Branch and as Honorary Treasurer of the affiliated society, the Medical Defence Society of Queensland. During the war he did much useful and strenuous home service, but only because the several attempts he made to get away on active service were frustrated by his rejection for health reasons. During these troubled four years of war he carried on alone, in addition to his military duties, a large and exacting practice, while his younger partner was serving abroad. He was ineed utterly overworked, but well or ill, tired or fresh, Ernest Spark stuck to his duty and did it well. His case is just another example of a too common tragedy in the lives of men who follow professional duty with unceasing devotion and in spite of failing health. During this time renal changes and arterio-sclerosis were developing and ultimately brought his valuable life to an end. Still he lived the strenuous days and the unrestful nights of an overworked practitioner. To rich and poor, to deserving and undeserving, he always gave his best. It is doubtful whether he had a single real enemy. In early life he was a prominent footballer and tennis player. In later life he loved gardens.

Ernest Spark married a daughter of the late Dr. Hester, of the Indian Medical Service. He is survived by Mrs. Spark and five children. The profession is the poorer by so good a practitioner and a man so upright and unselfish.

RICHARD READ.

The death of Richard Read, which took place at Wahroonga on May 5, 1920, has removed from our midst a man of wide sympathy and high ideals and one who was an extraordinary true and affectionate friend.

Born in Dublin, Ireland, 72 years ago, he came to Australia as a young man and was for some time engaged in commercial pursuits, where he acquired a remarkable grasp of business methods which he retained throughout his life.

Returning to Ireland, he decided to adopt medicine as a profession. He received his medical training at Trinity College, Dublin, and graduated as M.D. in 1872.

After graduation he returned to Australia and was for some time engaged in practice in Newcastle in association with Dr. S. T. Knaggs, his brother-in-law. He later commenced practice in Singleton.

During his long sojourn of 25 years in that town he won the esteem, affection and respect of all with whom he came in contact. He had a large-hearted, jovial and kindly nature that endeared him to all. Many will recall the cheer and comfort his presence brought into the sick room. He was gifted with a fine voice and took a deep and practical interest in choral work and amateur operatic performances. He was a serious and thoughtful student of political questions and on several occasions was requested to allow himself to be nominated for Parliament. Whilst in Singleton he became largely interested in mining and pastoral pursuits and was prominently associated with the syndicate which in 1893 took over the interests of and subsequently purchased the Great Cobar Copper Mining Company. The syndicate worked the mine for some years and installed electrolytic works at Lithgow. He left Singleton in 1898 and, retiring from the practice of his profession, took up his residence in Sydney and devoted himself to the management of the Great Cobar Mine till 1900, when the syndicate sold out to the present English company.

He was for many years a prominent member of the Board of Management of the Royal Alexandra Hospital for Children and devoted himself with zeal and enthusiasm to the carrying on of the work of that institution. He also closely identified himself with the work of many other charitable institutions, in which work a large circle of friends formed the highest opinions of his integrity and conceived a strong liking for him as a man.

His widow survived him for ten days only. Of his five sons, the eldest is Dr. W. H. Read, of Wahroonga.

The other sons are all engaged in the grazing industry.

Correspondence.

CUPRASE FOR CANCER.

Sir: Will some of your readers kindly set forth their experiences with cuprase and allied copper bodies in the treatment of cancer?

The agents assure me that they have in their possession several letters from doctors in this State, recommending this treatment, but are not permitted even to hint at the contents of these letters.

I wish to know how many injections must I give with no apparent improvement before I am justified in relinquishing the treatment as having failed?

Yours, etc.,

H. LISTER.

Cobargo, New South Wales,
May 10, 1920.

Books Received.

THE SEXUAL DISABILITIES OF MAN AND THEIR TREATMENT AND PREVENTION, by Arthur Cooper, Fourth Edition, revised and enlarged; 1920. London: H. K. Lewis & Co., Ltd.; Crown 8vo., pp. 266, with two plates. Price, 7s. 6d. net.

THE LINK BETWEEN THE PRACTITIONER AND THE LABORATORY: A GUIDE TO THE PRACTITIONER IN HIS RELATIONS WITH THE PATHOLOGICAL LABORATORY, by Cavendish Fletcher, M.B., B.S., M.R.C.S., L.R.C.P., and Hugh McLean, B.A., B.C., M.R.C.S., L.R.C.P.; 1920. London: H. K. Lewis & Co., Ltd.; Crown 8vo., pp. 91, with seven illustrations. Price, 4s. 6d. net.

REGIONAL ANESTHESIA (VICTOR PAUCHET'S TECHNIQUE), by B. Sherwood-Dunn, M.D.; 1920. Philadelphia: F. A. Davis Company; Sydney: Angus & Robertson, Ltd.; Royal 8vo., pp. 294, with 224 figures in the text. Price, 21s.

Proceedings of the Australian Medical Boards.

QUEENSLAND.

The undermentioned have been registered, under the provisions of *The Medical Act of 1867* as duly qualified medical practitioners:—

Savige, Harold William, M.B., Ch.B., Univ. Melb., 1918, Brisbane Hospital.

Brown, Hedley, James, M.B., Ch.M., Univ. Syd., 1920, Brisbane Hospital.

Day, Arthur Frederick Cephas, M.B., Ch.B., Univ. Melb., 1918, Muttaburra.

Jackson, Charles Ernest Sandford, M.B., Ch.B., Univ. Melb., 1920, South Brisbane.

Shaw, Robert Mervyn, M.B., Ch.B., Univ. Melb., 1917, Ballara.

Sim, James Brown, M.B., Ch.B., Univ. Glasg., 1903, Port Douglas.

Stark, Alexander William Brennan, M.B., Ch.M., Univ. Syd., 1920, Mater Misericordiæ Hospital.

Stormon, Michael Oswald, M.B., Ch.M., Univ. Syd., 1917, Normanton.

Thomson, George, M.B., Ch.B., Univ. Aberd., 1916, Brisbane.

VICTORIA.

The undermentioned have been registered, under the pro-

visions of Part I. of the *Medical Act, 1915*, as duly qualified medical practitioners:—

Davenport, Waldron Keith, M.B., B.S., Melb., 1920, 159 High Street, St. Kilda.
Dermer, Edward Gascoyne, M.B., B.S., Melb., 1920, c/o. Mrs. Tolhurst, "Shirley," Alma Road, St. Kilda.
Fairley, Keith Douglas, M.B., B.S., Melb., 1920, 177 Moore Street, Moonee Ponds.
Hewitt, William Ernest, M.B., B.S., Melb., 1920, Werrigar East, *viâ* Warracknabeal
Tate, William Frank, M.B., B.S., Melb., 1920, 146 Cotham Road, Kew.

Medical Appointments.

It is announced that Dr. J. S. Reed (B.M.A.) has been appointed Public Vaccinator at Korumburra, Victoria.

Under the provisions of the *Health Act, 1919*, of Victoria, Dr. W. S. Hawthorne (B.M.A.) has been appointed Medical Officer of Health for the Murrayville and Underbool Ridings of the Shire of Walpeup.

During the absence of Dr. Malcolm Gillies, Dr. N. A. A. Trenow (B.M.A.) has been appointed Acting Government Medical Officer at Bowen and an Acting Health Officer for the purposes of *The Health Acts, 1900 to 1917*, of Queensland.

Dr. A. H. Marks (B.M.A.) has been appointed, during the absence of Dr. J. Espie Dods (B.M.A.), Acting Medical Officer at Brisbane, Acting Visiting Surgeon to the Dunwich Benevolent Asylum, St. Helena Penal Establishment and Brisbane Prison, and Acting Medical Officer to the Diamantina Orphanage, Brisbane.

Dr. J. B. Sim has been appointed Medical Officer at Port Douglas and a Health Officer for the purposes of the *Health Acts, 1900 to 1917*, of Queensland.

The appointment of Dr. V. Osborne Stacy, D.S.O. (B.M.A.), as Officer of Health to the Kanowna Road Board of Western Australia has been approved.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxvii.

University of Sydney: Lecturer in Obstetrics.
University of South Africa, Johannesburg: Professor of Pharmacology.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges (other than the Grand United Order of Oddfellows and the Melbourne Tramways Mutual Benefit Society), Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital. Stannary Hills Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30.-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

May 25.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
May 26.—Vic. Branch, B.M.A., Council.
May 27.—S. Aust. Branch, B.M.A..
May 27.—Q. Branch, B.M.A., Council.
May 28.—N.S.W. Branch, B.M.A..
June 2.—Vic. Branch, B.M.A..
June 4.—Q. Branch, B.M.A..
June 8.—Tas. Branch, B.M.A..
June 8.—N.S.W. Branch, B.M.A., Ethics Committee.
June 10.—Vic. Branch, B.M.A., Council.
June 10.—Q. Branch, B.M.A., Council.
June 11.—N.S.W. Branch, B.M.A., Clinical.
June 11.—S. Aust. Branch, Council.
June 15.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
June 16.—W. Aust. Branch, B.M.A..
June 22.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
June 24.—S. Aust. Branch, B.M.A..
June 24.—Q. Branch, B.M.A., Council.
June 25.—N.S.W. Branch, B.M.A..

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: City 2646.)